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THE GRAPE CULTURE---Cure of the Oidium.

Some years ago this country was both excited and elated over the prospects of the Grape Culture, and the production of native wines. Our climate over an immense area was asserted to be admirably adapted to the maturing of the grape, and our soils to possess all the desirable qualities needed for a sturdy and vigorous growth of the vines. One well known poet went so far as to express his preference for Catawba wine over all other wines, "however soft and creamy," and with effects however "delicious and dreamy." Vineyards were started, and in a few instances fortunes were made during the prevalence of the mania for grape culture. But after some years, and when the vineyards were apparently most flourishing there came a blight upon them, and a failure of the crops for many seasons. Cultivators became discouraged and abandoned the vine on account of its almost inevitable tendency to disease. The excitement subsided, and the idea being abandoned of realizing speedy fortunes by the grape, its cultivation has since then made a slower, but, perhaps, a more hopeful progress. Some excellent wines have been made in California and some from the Catawba grape in the Western States. They are not at present, however, as low priced as they might be if the manufacture were more extended; but, if they are successful in the market, and find profitable and ready sale, it will encourage the extension of vineyards, until the price comes down to a reasonable limit.

Meanwhile, by experiment, and by knowledge gained in Europe, we are gradually getting on surer ground. We are learning that not only the growing of the grape itself needs care and skill; but that the pressing, storing, and even the judicious mixing of the wines requires great care and attention. In "Three Seasons in European Vineyards," by Wm. J. Flagg, a valuable work recently published, the paragraphs are given as a digest of some of the most important facts and theories yet to be learned or tested by us.

1st "Long pruning as practiced in America, is an efficient cause of the decay of our vines."

2d "The want of drainage, in the Ohio valley especially, has been equally injurious."

3d "The advantage is greater of growing vines on plains rather than on hills, except when the quality obtained from the hill grown vine is such that it will compensate for the larger cost and smaller yield."

4th "Training in low *souche*—that is to say on the vine stock itself and without stakes—is probably better adapted to our warm summers than the expensive method initiated from countries where peaches can only be ripened on trees flattened and fastened to the south side of walls."

5th "The red wine is preferable to white as the future beverage of the American people."

6th "The sulphur cure is entirely efficient against the disease of the vine in all its many forms, if only well applied."

When we have gained that experience which time, thought and experiment alone can give us, and the area of grape culture, slowly but surely extends, year by year, until the supply, both of grape and wine, becomes abundant in our markets, the skill attained in mixing, bottling and storing, together with the increased age of the wines kept in store, may enable us to compete with some measure of success with the wines of older countries. At this time, in California, certain kinds of wine sell as cheaply as milk can be sold, and recently a contract has been entered into there to send tons of grapes over the Pacific railroad for sale in the Northwestern and Eastern States.

The most serious drawback to the cultivation of the vine in the Western States, is, as we have already said, its liability to various diseases. Of these, the Oidium is the most frequent and the most fatal. Mr. Flagg from his inspection of the vineyards of Europe, and his study there of the effects of this particular disease, puts unhesitating faith in sulphur if persistently and thoroughly applied, and regards it as the most effectual cure not only of the Oidium, but of all other injuries inflicted on the vine by the attacks of vegetable parasites.

The approach of the Oidium is unmistakable. On its first appearance a few buds will appear as if more

or less covered with flour and will soon wither. It spreads in proportion as the weather gets warmer, and in Europe about the time the wheat ripens is seen to break out on all the vines at once. These vines assume a peculiar yellow color—the leaves and fruit are covered with a white dust or efflorescence having a musty odor. After this the disease spreads rapidly. Its range extends over entire countries. During July and August the shoots become covered with black spots, the leaves curl up, and the grapes at first powdered with white become covered with brown spots. They then split and dry up. The injury is usually the greatest when a warm dry summer succeeds a rainy spring.

The mode of applying the sulphur for the correction of this evil is thus given:

"Flour of sulphur is the best to use in America."

"Three conditions in applying the sulphur are necessary to insure a good result."

1st "The application must be made as *soon as the Oidium begins to appear on the vine*. Thus the parasite will be prevented from obtaining too strong a foothold on the fruit and foliage, and impair their vegetation and disease their tissues."

2d. "The sulphuring must be renewed as often as the Oidium renews its attacks, and as soon as it reappears. Thus we continue to operate on the surface of the plant, and to prevent the bad effects which would not otherwise fail to follow a new invasion."

3d "The application should be thorough and reach every infected part. It will not do merely to sulphur the diseased fruit. The shoots, leaves and all the fruit—in a word every green part must be dusted with sulphur. When we find a single bud on a stalk to be diseased, we may be sure that every other bud carries on its surface the germs of the disease. To destroy those germs they must be reached with sulphur dust."

"The fundamental principle is this: *Scatter the sulphur on every green part from the first appearance of the symptoms of the disease, and renew the application each time it may appear.*"

PLASTER OF PARIS OR GYPSUM ON WHEAT.—Plaster, chemically Sulphate of Lime, though one of the best fertilizers on grass, especially clover, does not answer for wheat. It encourages the growth of the straw at the expense of the grain, and causes it to remain green and succulent days after it should be ripe.

This exposes the wheat to attacks of rust, and to the wheat midge. Fertilizers containing phosphates and potash should be applied to wheat soils to insure heavy crops. Their effect is always beneficial, and the chances for a good crop are greatly increased by plowing down a crop of green clover a few months before the time for putting in the seed.—*Farm Journal.*

Lawn Grass Seed.

This subject is wonderfully *mixed* up. We see a mixture of English grasses, some eight or ten, with novel names, recommended in many of the papers, from year to year, becoming really a mere stereotyped edition of the same recipe. If the English climate, with its constant moisture, its freedom from sudden changes, and comparative freedom from long-continued droughts, could also be imported, these foreign grasses might be made available perhaps. A good lawn with an evergreen greenness in this country is a luxury, not to be attained without *expense*. Where it is being newly laid out, there is not much difficulty; deep and thorough ploughing and subsoiling, with fine pulverization, and stable manure copiously applied and ploughed down, are the important prerequisites; after which, all the grasses needed are, Kentucky blue grass with a little white clover and English perennial rye grass. Use not *less* than twenty-five pounds per acre of seed, and forty pounds would be much better—and of this mixture, two-thirds should be of the first named.

Where grounds are already planted with shrubbery and trees, so that ploughing is an impossibility, a good plan is, the sowing of a few pounds of the above mixture, early in the spring, before the ground has become settled, in places where the grass shows a disposition to run out; afterwards top-dressing must be relied on. Four bushels of salt to the acre we have known to have an excellent effect, in *addition* to super-phosphate of lime, bone dust, plaster, lime, ashes. We do not recommend all these at once, or even the same season; but they should be tried alternately. So important is it to keep up greenness and fertility, and so great is the difference in soils, that the owner of a handsome lawn should experiment by sowing strips of these, so as to find out which suits his ground the best. A good dressing of short manure in the fall of the year is indispensable. Unless in rare cases, where perhaps an impervious clay approaches the surface, we think a good sod can be *permanently* kept up by using these different top-dressings at different times.

Another means of fertility is allowing the fine mown grass in the lawn to lay on it. Frequent mowing leaves this so thin as to do no harm, and it answers the purpose of a mulch as well as a supply of the very elements of its own nutrition.—*Practical Farmer.*

As seen with a naked eye, the wheat fly and the midge appear no larger than the eye of a very fine needle, but when supjected to microscopic examination they much resemble the tobacco worm, the fly being perfectly black and the midge of a golden hue, and so transparent that the blood may be seen coursing through its body.

Our Agricultural Calendar.

Farm Work for August.

The farm work to be done in August is rather of a desultory character. It consists in part of preparatory labors looking to the next year's crops, and in part to the completion of the round of crops properly belonging to the present season. There are, nevertheless, many things that may be done which are of importance to the future fertility and cleanliness of the farm. Ditching and draining are among these essentials. They are operations which besides improving the health of the locality, increase very materially the fertility of wet, low lying lands, and enable them to bear in rich alluvials heavy crops of the finer grasses. Even on the slopes of uplands, which are often underlaid with springs, similar precautions are necessary to the preservation of winter grain. August, also, is an excellent month for liming grass lands that are running out preparatory to breaking them up in the spring either for oats or corn. It is, moreover, decidedly the best month for extirpating bushes and briars; killing both of these during the dry weather of August more effectually than at any other time. Those who have the opportunity should collect as soon as the harvest work is well over and the corn is laid by, all the materials that can be had on the farm for the manufacture of composts. Dana's Muck Manual will explain how these materials are to be used, and furnish a clear account of their agricultural value; or similar information may be obtained from back numbers of the *Farmer*. We would add here that sheep require especial care during this month to preserve them from the fly, which deposits its eggs in their nostrils. The simple remedy of tar poured occasionally over the bottom of the troughs and sprinkled over with a thin layer of salt is one of the best preventives. The work for the month is as follows:

Fall Turnips.

These should be seeded not later than the first week in August. For the best method of preparing the land and seeding down to turnips, we refer to the July number of the *Farmer*. It may be proper, however, to state here that success in growing large crops of turnips depend upon three things—high manuring, deep ploughing and a thorough pulverization of the soil. Turnips drilled in generally produce the heaviest crops, because the drill system offers the greatest facilities for the thorough cultivation of a bulb which is so rapid in its growth as the turnip, and which occupies the ground for so short a time. We desire here to notice one fact. Of all the fertilizers used to stimulate the growth of the turnip, none act more decidedly than the phosphates. These, if rich in bone earth, act like a charm, and in many instances will be found superior for this particular crop to the best barn-yard manure. We do not, however, advise the use of the mineral phosphates, for they are the least soluble of any, and their action is generally too slow for the wants of the crop. Bone phosphate rendered soluble by the application of dilute sulphuric acid are in all cases to be preferred, nor are their effects limited to the particular crop or to a single season. If the land be seeded down to wheat late in the fall, or oats in the spring, and then to grass or clover, the beneficial action of the phosphates will be observable through several seasons. In this case, however, the phosphates should be applied in liberal quantities, broadcasted evenly over the field and ploughed lightly in, sprinkling a little additional phosphate along the drills to stimulate the early growth of the turnip. The best white turnip, whether for market or for furnishing succulent food to cattle during the winter season, is the purple top. The yellow hybrid is also excellent, is indeed firmer than the purple top, but does not produce such large crops.

Seeding Rye.

Rye is one of the hardiest of the cereals, and grows on good soil of a light texture, rich and well cultivated, will be found quite as profitable as wheat; indeed, in sandy loam and light alluvial bottoms, well-drained rye is a more valuable crop than wheat. The grain of rye will not bring as much per bushel in the market as wheat, but the straw is far more valuable. Last season rye straw sold in Baltimore at twenty dollars a ton—almost as high as timothy—and it is always in demand. What is known as the best corn land produces the heaviest crops of rye; and from the small amount of potash and the phosphates required for the growth of rye, as compared with the other cereals, rye crops do not very materially exhaust the soil. The following comparative analysis of the grain and straw of rye and wheat, respectively, will show the difference between them:

	Grain Wheat.	Grain Rye.	Straw Wheat.	Straw Rye.
Potash	2.25	5.32	0 20	0.22
Soda	2.40	....	0.50	0.11
Lime	0.96	1.22	2.40	1.78
Magnesia	0.90	1.78	0.32	0.12
Alumina	0.36	0.66	0.90	0.25
Silica	4.00	1.64	23.70	22.97
Sulphuric acid	0.50	0 23	0.37	1.70
Phosphoric acid	0.40	0.46	0.70	0.51
Chlorine	0.10	0.09	0.30	0.13
Oxide of Manganese		0.34	....	....

The amount of silica taken up by the straw and grain of wheat and rye is, it will be observed, about equal, so also of the soda and potash; but the phosphates required by rye are less than one half the amount absorbed by wheat; whilst the chlorine

amounts also to but little more than one half. The best mixtures for an acre of rye would therefore be:

1. Fifty bushels of wood ashes and two hundred pounds of super-phosphate.

2. Five two-horse loads of barnyard manure, ten two-horse loads of woods' earth or swamp muck, fifty pounds of super-phosphate, fifteen bushels of wood ashes—composted.

3. One hundred pounds of super-phosphate, ten bushels of ashes, ten two-horse loads of marsh mud, mixed with rough vegetable fibre or woods' earth and rotted leaves—composted.

Preparation of the Soil.—Plow deep, pulverize well with the harrow, sow broadcast and roll evenly and carefully.

Quantity of Seed to the Acre.—Sow from a bushel to a bushel and a half of seed to the acre, according to the quality of the soil.

Setting a Timothy Meadow.

No meadow should be set in Timothy until it has been thoroughly drained, thoroughly plowed, made very fertile, and reduced to as fine a tilth as possible. A cleanly soil, entirely free of weeds and briars, is essential to the proper growth of the crop, as clean timothy alone brings the highest price in the market. Timothy is a grass that draws largely upon the potash and phosphates in the soil, and where these are not present in sufficient quantity the timothy soon dies out. As a fertile timothy meadow, if occasionally top-dressed, will bring good crops for a period of seven years, it is important that the soil should either have naturally or be furnished wish what constitutes its chief food. Two hundred and fifty pounds of super-phosphate, mixed with fifty bushels of unleached wood ashes, will be found sufficient for an acre of moderately fertile soil. A good rich compost may, if properly made, serve as an efficient substitute. After the third year, however, the harrow should be carefully passed over the timothy meadow either late in the fall or when dry enough in the spring, and the whole top dressed with either ten bushels of crushed bones to the acre, or one hundred and fifty pounds of super-phosphate, and twenty-five bushels of wood ashes.

Quantity of Seed to the Acre.—From a peck to a peck and a half of timothy seed should be sown to the acre.

Time of Seeding.—From the middle of August to the middle of September.

Late Potatoes.

Keep the soil light and free of weeds. Run the cultivator occasionally in the spaces between the drills; hoe up to the vines, and dust them with a mixture of wood ashes, plaster and salt.

Granaries.

If these have not been swept and purified, get to work and do it at once. Wash the floors and sides with hot ley, and then white-wash over the whole.

Poultry Houses.

Clean these as advised above.

Threshing Out Grain.

Thresh out the wheat crop and send it to market as early as possible. The crop this season is an abundant one in the Middle States, and as there is but little probability of a foreign demand, the earliest wheat in market will command the best prices.

Late Corn.

Keep the cultivator running in corn that was planted late, and continue to do so until it tassels.

Fallowing for Wheat.

Except where a clover crop is to be turned under it is advisable to plough early and plough deep for wheat. A cross-ploughing should follow in due season to destroy all weeds that make their appearance. Harrow thoroughly and make the seed bed as fine as possible.

Garden Work for August.

There is but little that can be done in the garden during this month, but such operations as are necessary are as follows:

Setting out Cabbage Plants.—Plant out late Cabbage plants for winter supply as soon as a favorable opportunity presents itself. If the season prove very dry, plant out of an evening and water freely.

Spinach.—Drill in a few rows of spinach during the first and second weeks of this month for use in September and October. Make the soil very rich, using only the richest and best rotted manure.

Asparagus Beds.—Keep these well forked up and free of weeds.

Turnips.—Sow turnip seed not later than the first week in the month. The purple-top is best. For further directions see Farm Work in this number.

Celery.—Young celery plants may now be set out. Earth up the plants already bedded for blanching.

Small Salading.—Sow the seed of all the various kinds of small salading at intervals of ten days during the whole of the month.

Peas.—From the first to the middle of the month dwarf peas may be seeded in partially shaded situations. The young peas will require an occasional watering after sunset.

Beans.—Drill in a few rows of dwarf beans for a late supply up to the 15th of the month. In dry weather water freely.

Lettuce.—Set out Lettuce plants for seed bed and sow for a fresh supply at intervals of ten days.

Endive.—Tie up endive to blanch, and sow more seed during the early part of the month for the winter supply.

Melons, Cucumbers, &c.—Keep these stirred and weeded.

Lima or Carolina Beans.—Keep the ground loose and clean about the vines, and water them liberally after sunset during dry weather.

ONION CULTURE.

To the Editors of the Maryland Farmer:

Since the publication of my brief remarks in the July number of your journal, on the subject of the onion crop, tillage, &c., I have been requested by an esteemed friend to write an article on the cultivation of the same. I have taken the trouble, or, rather, the pleasure, to visit and converse with several of our most prominent market gardeners, and have examined Eastern authority on the subject. I find there exists but little diversity of opinion on the subject, either by our practical gardeners or Eastern writers. Of the latter, I refer to Robert Buist, of Philadelphia, Thomas Bridgeman, of (if I am not mistaken,) Massachusetts, and others. You no doubt know those gentlemen—at least their high character as horticulturists. I quote from those gentlemen, omitting all superfluous matter, Mr. B., particularly.

What we want are facts, not theory, and it is immaterial from what source it is obtained so that we get them honestly. Mr. B. commences by giving the origin of the onion, its medicinal qualities, mode of cooking, pickling, seasoning, &c. The origin is not material, its medicinal qualities we leave to the "medicine man," and cooking, pickling, &c., to the housewife on the manor born. Mr. B. says:

"There are a multitude of varieties of the onion in cultivation, but the most useful are the following:

Strasburg or Yellow (New Danvers)—Large, oval, very hardy; keeps well, and of strong flavor.

Silver-Skinned—White, flat, medium size; very generally used for pickling; [mild flavor, and the Baltimore favorite for cooking, etc.]

Red Dutch—Dark red, medium size; keeps well, very hardy; extensively grown in the Eastern States for export; strong flavor.

Potato or Ground Onion—Produces a quantity of young bulbs on the parent root, which should be planted in rows three inches deep below the surface and six inches from bulb to bulb, eighteen inches being left between the rows. Keep clean of weeds and earth them up like potatoes as they continue to grow. They will be fully grown by the first of August, when they may be treated as other onions. [The largest produce the greatest number, and the small the largest onions.]

Welsh or Tree Onion—Much grown where the onion does not seed freely. This variety shoots up a stem upon which small bulbs grow in place of seed. These bulbs are kept until next year, when they are planted and produce very good roots of considerable size, while the stem gives a further supply for next year's planting. [The white tree onion buttons are very suitable for pickling.]

Culture.—The soil in general cannot be too rich for this esteemed vegetable, and however good it may be, it requires more or less manure for every crop.

In regard to rotation of crops, the onion is an anomalous case, for the same ground has been known to produce yearly, for nearly half a century, heavy crops. * * * * There are hundreds of acres grown in this vicinity for shipping to the Southern markets. The system pursued is to manure the ground heavily with the best dung. Dig or plow the ground early in spring; level it with the rake or harrow; then, with the beet rake, draw drills about one and a half inches deep and about nine inches apart, having a space of about fifteen inches between every three drills, called alleys. [Plant the entire bed in onions—leaving alleys is a waste of land and labor.] Plant these drills with young onions about the size of beans, and do not cover them. They will be green in a few days. Hoe frequently and keep clear of weeds. In June dig the alleys and plant drumhead cabbage and Savoys for a winter crop, or large York for a fall crop. The onions will be ripe in July, when they are pulled and cleared off. * * * My method is, after the ground has been well dug and raked over, to roll it before the drills are drawn, which must not exceed half an inch deep, [half an inch deep is right,] being a mark whereon to lay the setts. Hoe to keep down the weeds; lift the crop after the tops are fully dried off; expose them in the sun a few days, to harden; or tie them up in ropes and hang them up for use. By this treatment they will keep perfectly throughout the entire winter.

Sowing Seed.—The general method is to sow the seed very thickly, in shallow drills, early in April. The bulbs grow to the size of peas or beans, [size of marbles is right, and more definite,] by the middle of July, when they are lifted and put away in an airy loft, to keep till next spring. They are then planted out in drills for a full crop, as above. Onions may be grown from the seed, in one season, full large enough for culinary purposes; and where the soil is of a deep mellow loam, on a dry bottom, which is most genial to the growth of this bulb, they will grow equally as fine [but not so large] as those that have taken two seasons to mature. For this purpose sow the seed very thinly, half an inch apart, (an ounce of seed will be an ample supply for a family,) in drills nine inches apart and as shallow as they can possibly be drawn. Tread the seed in with the foot, to make it firm. Sprinkle a very small portion of fine earth over the seed, and finish by raking it evenly. Within three weeks the onions will make their appearance, when, if many weeds rise among them, they must be cleared with a small hoe, observing not to hoe deep, for the more the onion rises out of the ground, it is the finer, and

keeps better. As soon as the plants are three inches high, thin them out to two inches apart. If the weather is moist, the thinnings may be transplanted into other ground. They, too, will attain a full size. The plants being now two inches apart, as they grow, every alternate one should be pulled for immediate use, [advice for the market gardener,] either for soups or salads, leaving the crops four inches apart in the row. Nothing further will be required until they are pulled up for drying, except the keeping down of weeds, which must be strictly attended to. In moist seasons onions are apt to grow (what is termed) thick-necked. In such cases they should, about the end of July, be gently bent down with the handle of a hoe or the head of a wooden rake, which will check their rapid growth and cause them to bulb sooner. [Not necessary if the ground is properly chosen, manured and cultivated.] About the middle of September sow a row or two of onion seed for early spring use, before any other green salading or seasoning can be obtained. The plants will be four inches high before winter sets in severely; then they should have a little rough litter, or pine branches, thrown over them for protection. They will come very acceptably into use in March and April; or a few of the large onions can be planted in September. They will divide into several roots or scallions, and can be drawn for use as above, and a few more can be planted early in spring, to draw for the same purpose. [Cut off the centre stem, otherwise they will run to seed.]

Saving Seed.—It is very important to have good seed; therefore select the most uniform roots in September and plant them fully under ground in rows one foot apart and two feet from row to row. Let the ground be in excellent condition, for the stronger the plants the finer the seed, which will be ripe in July or August, according to the weather. As soon as the heads begin to open and show the black seed they must be cut off and put in a sheet to dry; clean it out well when perfectly dry. All seeds keep best in bags hanging in an airy room, and onion seed will be perfectly good for three years. To grow onions for pickling, sow the seed in a bed in March or April, [sow as soon as the ground can be worked in the spring,] at the same time that the general crop is planted. No further culture is required, except hand-weeding, as their thickness in the bed will prevent their growing large, and will cause them to come to maturity sooner. They should be lifted in clear sunshine weather, as it improves their color. The white or silver skinned is the sort usually sown for this purpose."

I notice by a second examination of Mr. Bridgeman, on the subject of onion cultivation, that in substance Mr. B. and Mr. Buist do not differ materially, therefore it is superfluous to quote from him.

The following valuable remarks on the onion crop, are taken from the Domestic Encyclopediæ, republished in Philadelphia in the year 1803. The original copy was probably to be found in the libraries of the antedeluvians. The publishers say:

"The success with which our New England brethren prosecute the onion husbandry has long been known. The following directions, therefore, on the subject, from Mr. Dean's New England Farmer, deserve attention:

"The common sort of onion have purple bulbs. The white or silver-skinned, which are supposed to come from Egypt, are, by some, preferred to others. They have not so strong a taste. This plant flourishes so well in the southern part of New England that it has been long an article of exportation. In the northern parts it requires the best culture.

A spot of ground should be chosen which is moist and sandy, because they require *much heat*, [requires *heat*—mark that!] and moisture. A low situation, where the sand has been washed down from a neighboring hill, is very proper. The most suitable manures are old rotten cow-dung, ashes, [if ashes are applied, use it for the top-dressing—mixed with manure it will expel the ammonia,] but, especially, soot.

I have many years cultivated them on the same spot, and have never found the land at all impoverished by them; but, on the contrary, my crops are better than formerly. But the manuring is yearly repeated, and must not be far below the surface.

The ground should be dug or plowed in autumn, not very deep, and then made very fine in the spring, and all the grass roots and roots of weeds taken out; then lay in beds four feet wide. Four rows of holes are made in a bed, the rows ten inches apart, and ten holes in the row. About half a dozen seeds are put in a hole, or more, if there be any danger of their not coming up well, and buried an inch under the surface.

This is allowed by experienced cultivators in Connecticut, to be the best way of setting the seeds; for they will grow very well in bunches. They throw each other up out of the soil, and lie in heaps as they grow upon the surface. The largest onions are those that grow singly, some inches apart; but those that are more crowded produce larger crops. Last year (1789) I sowed my onions in drills, twelve inches apart, across the beds. My crop was near double what it used to be, when they were sowed in bunches. I gave them a slight top-dressing of soot, just before they began to form bulbs, which might be the true reason of the great increase; so that I do not absolutely prefer the drill method to the other.

That onions may keep well through the winter, they should have a situation dry and cool. Moisture

soon rots them, and warmth causes them to vegetate. A degree which would ruin most other esculents will not injure them. When onions are kept long they are apt to sprout. To prevent this, nothing is more necessary than to sear the fibrous roots with a hot iron.

Many persons dislike onions on account of the strong and disagreeable smell which they communicate to the breath; but this inconvenience may be obviated by eating a few raw leaves of parsley immediately after partaking of onions, the scent of which is thus completely removed." [Why will not any other aromatic herb or celery have the same effect?]

Mr. Dean says much more about onions than I have copied, but, with previous extracts, it is not necessary to publish more. I feel that I have more than tired your patience; but, in looking over the numbers of the American Agriculturist, I find new, important and original matter relative to the onion; and, rather than not give them to you, I almost feel willing to risk your displeasure by the exhibit:

Raising Onions.

BY AN OLD SEED-GROWER.

The reason why many do not succeed in their first attempt to raise onions is, because they do not select ground which has been suitably prepared in the cultivation of the two or three previous crops. It is a mistake that onions do better, year after year, on the same ground, simply because onions follow onions. It is the higher manuring, more thorough pulverization and mixture of the soil and manures, and the cleaner and more careful cultivation required every year for onions, than is given to any other crop, that fits ground better for them.

Onions will undoubtedly succeed better many years on the same ground than most other vegetables, but there is a limit to this success. In Wethersfield, which has been so famous for its onions, the cultivation has greatly declined on account of the diminished product to the acre. The onion grown there now in many of the old gardens, are small; they start quickly and grow vigorously the fore part of the season, but suddenly meet with a check when they should go on growing, even if there be no signs of smut or blast, and ripen too early to attain their former size and productiveness. Much larger crops are now grown in other towns. One great trouble among beginners on new ground is, that the onion will not bottom and ripen at the usual time, but continue to grow all the season and produce too many stiff necks or scallions. There are several causes for this; one is, the land, which is too poor to commence the cultivation upon, is heavily manured and plowed deep, bringing the poor subsoil to the surface. The seed in such soil comes up weak, if at all, and the onions grow very slowly until they get hold of the decomposed manure, when it is too late in the season for them to mature. Late sowing, a wet season, and foreign or bad seed, are other causes of scallions. If they do not begin to bottom before September rains, they never will.

The onion is not so particular about the character of the original soil as many suppose. Good crops are obtained on almost any soil, not too wet or too dry, except a stiff clay, light sand or hungry gravel. It is essential, however, that the land should have been made rich by the thorough incorporation of manures in clear tillage, for at least two years, from the sod. Corn and thin potatoes, carrots or beets, are good preparatory crops. One or two heavily manured tobacco crops admirably fit the ground for onions. Old vegetable gardens are, perhaps, the best, except where cabbage have been grown, which are the worst of all crops to precede onions. [My little crop is planted on ground that was in cabbage last year—a full average yield, and not an excresence among them.] In the spring, as soon as the ground will work, plow four inches deep, and spread on a good dressing of fine compost, or three hundred pounds Peruvian guano, or superphosphate of lime, and harrow it in well; back harrow and harrow again. When not manured in the fall, fine hog-pen or stable manure, free from grass and weed seeds, should be plowed in in the spring and the guano and other fertilizers harrowed in. [Fish ought to be decomposed in rich earth, otherwise they will destroy any crop.]

"Old Seed-Grower" continues by describing with figures the garden rule and line, two plans for markers and Comstock's Onion Weeder. All, I suppose, can be procured from agricultural houses.

Comments.

Those gentlemen all appear to agree that onion ground ought to be plowed shallow, and heavily manured, that the crop requires heat and moisture, and a light loam is the most suitable.

I can see no advantage gained by shallow plowing other than it places the manure near the surface. If the subsoil is as rich or richer than the upper stratum there can be no objection for deep plowing. If plowed deep, however, the manure ought to be spread previous to harrowing; or plow shallow, as advised, and let a subsoil plow follow, (the elevated slide removed,) which will simply pulverize the subsoil, allowing a receptacle for extreme wet, which will rise during dry weather and afford sustenance to the crop.

It will be observed that the above remarks allude to bed or garden culture; for field culture why not, in following these directions, leave between the drills sufficient room for a cultivator to pass?

Where a small quantity of onion seed is to be cleaned, take off the roughest chaff by hand and pour the seed in a tub of water or a weak brine; the chaff and light seed will float to the surface; pour off the water and spread the seed thinly in the shade; when dry, bag it, and hang the seed in a dry airy loft. Sow strictly American seed. Foreign seed is next to worthless in this climate.

Testing Seed.

If the seed you sow is not your own growing it ought to be tested previous to planting to ascertain how many seed (if any) will vegetate. The best plan is to take a common size glass tumbler, fill it two-thirds full of water, and on it place half an inch of raw cotton, sow on it the seed thinly and cover with a fold of soft paper, and on it a light weight; moisten the cotton and keep it so; mark the result and act accordingly. To obtain proper size setts sow fresh seed ¼-inch apart; and, for pickles, ½-inch. The best size setts are those the size of marbles. When there is a large lot of onions harvested it is best to house them at once. Spread them thin in an airy loft till they harden; after they are fully cured they may lay eight inches thick. Broad shelving around the inside of tobacco houses or other similar buildings is very suitable; close the shutters during damp or very cold weather.

THE POTATO BORER.—As the season is now approaching when this very destructive insect begins to operate, we cannot do our readers a better service than to again call attention to it. What is called "sun scald" is almost always the result of the stem-borer's operations. The pith is eaten out by the grub, and when a very hot day comes the leaves are not able to supply enough moisture to supply the evaporation through the injury to the stem, and thus the plant gives out. Growth immediately stops, and only half a crop of immature tubers is the result.

Very few persons are aware of the existence of this insect, and yet the annual damage which it does is perhaps as great as the yearly loss by the potato rot.

The insect is easily kept under. After the stem dies the grub leaves it, and finishes the balance of its transformations in the ground; therefore, if these stems are gathered and burned within a few days after drying, the whole crop is destroyed.—*Weekly Press.*

WEEDS are God's policemen. They make lazy farmers cultivate the soil, which without them never would be stirred, and consequently never produce a crop. A good farmer hoes often, weeds or no weeds, but a slack fellow never uses the hoe if he can find any excuse to avoid it.

Better Times Coming.

A recent article in the New York Tribune calls attention to two general features in the present agricultural condition of the United States, which deserve consideration with reference to earnest steps toward effecting a change. One relates to the North and the other to the South. They are briefly, as follows:

1. In all the wheat-growing States the number of bushels produced to the acre is falling off yearly. On a fresher soil and with as good a climate as that of England, the English double us in their acreage, and they do it chiefly because they buy more bones and feed more roots and rich food to their stock.

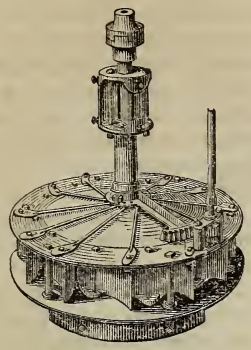
2. Almost every county in the South deprives itself of half a million annually by buying what the farmers ought to raise. When agricultural wealth was the badge of respectability, the planter of three hundred bales was more honored than he who sold one hundred. Hence the temptation to plow the whole face of the land and skim it of what plant food lay within three inches of the top. All this is to be changed. The Southern farmer of 1870 who stands first in his county will be the man who has the greatest number of agricultural products to sell, and who pays out money for hardly anything but salt and iron.

In reference to the first of these features, we believe that it is fast being removed. Our farmers appreciate more fully the importance of returning to the soil the phosphoric elements extracted from it by successive wheat crops, and of properly feeding and caring for their cattle.

As to the second feature, we are glad to believe that a reform has already commenced which will completely change the condition of the Southern States, and favorably affect the agricultural interests of the whole country. That we have reason to hope for these results is evident from the inspiriting tone of the whole southern press. It urges the Southern people to devote themselves "to improved and progressive agriculture with vigor, and to the exclusion of all political aspirations or contests."

HOW TURNIPS CAN BE RAISED CHEAPLY.—By sowing the purple-top turnip seed at the last dressing of the corn, and covering with a light harrow, a couple of hundred bushels of the best turnips can be raised with very little trouble. The early sowing will be compensated for by the shade afforded by the growing corn. This crop will take the place of the weeds and will not be in the way of harvesting the corn, as it will do the turnips little harm to treat them as though you did not know the crop was there. There will be enough left uninjured to pay all the expense a dozen times over.—*Germantown Telegraph.*

Turbine Wheels for Farm Machinery.



Leffel's Turbine Wheel.

Different kinds of moving powers may be profitably used on farms for driving the various stationary machines employed, according to the circumstances and means for bringing these powers into action. Where the surface of the country is level, or where the locality is on the shore of a large sheet of water, and the wind is steady and uniform, or not broken by hills into irregular currents, the modern self-regulating windmills may be profitably used for intermitting work, such as pumping, grinding, cutting straw, &c. In other cases, steam engines are advantageously employed on large farms. But where streams of water, with some fall, are at command, small turbine water-wheels have important advantages, as, unlike either steam engines or horses, they require neither fuel nor food. If a dam can be employed for holding the water of a small stream, it may not unfrequently be brought along hill-sides, or over the brows of bluffs, and used a day or so in a week, for threshing, grinding, shelling corn, cutting straw and corn fodder, churning, sawing wood, slitting pickets, &c., with great advantage and economy. A stream, with a fall of ten feet, and furnishing one cubic foot of water in seventeen seconds, will, if its water is held in a dam or reservoir, give a cubic foot per second for ten hours of one day in the week. This, applied to a turbine wheel, will be fully equal to one-horse power. A stream twice or three times as large, will be equal to a two or three-horse power, for the same fall. With twice the fall, its power will be doubled. A turbine wheel for such a purpose need not be more than eight or ten inches in diameter. To one accustomed only to the large and cumbersome overshot or breast wheels, these statements seem almost incredible; but those familiar with the thirty or forty-horse power turbine wheels, under high heads, with only a diameter of two feet or so, will thoroughly understand the moderate character of our statements.

We have used the term "thirty or forty-horse power" as applied to a turbine wheel. This is not strictly correct, or it conveys an erroneous impression. The turbine wheel possesses in itself no power; it merely puts the power of the descending current of water into a shape to work machinery. The overshot wheel has to hold all the water of the entire descending current; the turbine wheel is only the working bottom of the long flume or penstock above; here is its great economy. It does not receive the force of the descending current on one side or at one spot; but the head of water in the flume above strikes all the floats or buckets at once on the entire circumference, and this imparts to it extraordinary power.

Turbine wheels are always placed in a horizontal position, with a vertical axis. They are submerged, or entirely under water, and hence never freeze. They are not clogged by the back water in times of flood. Their small size admits of their being made wholly of iron, and hence their durability.

Among the different modifications of the turbine wheel, now most commonly approved and coming into extensive use, are those invented by Van de Water and Leffel, in which the water, entering through openings around the wheel, passes downward and escapes below, and the Reynolds wheel, where the water escapes towards the centre, both above and below. Our correspondent, E. W. Herendeen, of Geneva, informs us that he has used one of Van de Water's wheels for one year in a mill, with great satisfaction and success. It is set, as usual, over a hole cut in the bottom of the flume, so that the water runs through and discharges below. The head is only eight feet, and the cross section of the aperture for discharge is an area of two hundred inches, or about equal to fourteen inches square. He finds that when the gates are half drawn, there is sufficient power to drive a run of stones to grind twelve bushels of wheat per hour, and to drive all the machinery connected with it. He finds it to use less than one-third the water required for the wheel it displaced, and it gives steadier power. He suggests the importance to farmers of employing such wheels on a moderate or small scale, for the various mechanical purposes on the farm already mentioned, where a fixed power can be employed, as well as for all water mills, and especially for those where the water diminishes much in dry seasons of the year—giving it as his opinion that the best turbine wheels are as great an improvement over those formerly in use as mowers and reapers are over hand-scythes and cradles.—*Cultivator and Country Gentleman.*

Never wait for a thing to turn up. Go and turn it up yourself. It takes less time and is sure to be done.

DITCHING AND DRAINING.

During the fall season of the year, many farmers take advantage of their leisure and the condition of the ground to cut ditches in wet places or to lay tile for under-draining upon their farms.

In very wet places, where a large volume of water is to be carried off from a deep and porous vegetable deposit, an open ditch is the most readily available and much the cheaper method of drainage, since a single broad ditch through the lowest portion of the tract with a few wing sluices leading into it from neighboring pools, will soon take off a majority of the dead water and leave the ground in a condition to compact and ripen, preparatory to being put under cultivation or for bearing tame grass.

The practice of making common open ditches is so plain and simple that very little need be said by way of explanation. The main requisites for a good ditch being a grade which will not dam the water in any place, and sides cut to such an angle from the perpendicular that they will not slough off or "cave in," to fill up the ditch and obstruct the flow of the water. In clay ground the sides will hold if made nearly perpendicular, but in softer soils, and particularly in sand or muck, the slant of the sides should be considerable—often not less than one-third pitch.

All ditches or under-drains should be laid out as nearly in direct lines as the lay of the land will allow; which will help the water to flow off more freely and prevent the accumulation of trash which is apt to clog up the turns or eddies in the ditch.—But this directness must not be at the expense of the grade; which is a matter of first necessity in a water course.

In constructing covered drains, a variety of material is used, according to the convenience of the situation. In pretty firm soils, a brush drain does very well. The bottom of the ditch should be about a foot in width and the brush laid in all one way, with the tops down stream. After the brush is laid in, cover with a layer of straw or sods to keep the fine dirt from sifting through, then fill up, rounding the top well as it will settle considerably. In sandy land brush drains will not answer at all.—Where there are plenty of cobble stones, these are often used to good effect in the bottom of covered drains, treating them in the same manner as specified for brush drains.

Wood is used in various forms for underdraining: laid in the bottom of a ditch in the shape of split rails; slabs from the saw-mill; old rails from decayed fences, &c. An excellent underdrain is made by digging a narrow ditch, say two and a half or three feet deep, a foot wide at the bottom, then with a narrow spade, cut a channel six inches wide and the same deep along the middle of the bottom, and cover this with an oak plank or thick slab, belly up resting on the shoulders of the first bottom, and fill up the ditch as for other blind drains. In soft land we have seen the water track made by nailing together two narrow boards like an inverted V, and laying this upon a bottom board.

For a tile underdrain, preference is given to the variety known as either pipe or sole tile over the horse shoe or open bottom style, though this last does very well in firm clay land, not infested with crawfish. In laying all tile, care must be taken that the bearing be firm and uniform throughout, so the joints shall not get misplaced and let in dirt to choke the watercourse. If the soil is soft, it may be well to underlay the tile with narrow oak boards, which will keep them in place some years, and until the earth is evenly compacted about them. The proper depth for tile drain is from two to three feet, and the distance apart of the lines of tile, thirty to forty feet, for thorough drainage. The best sizes of tile for ordinary land are from two to three inches calibre. Where several laterals lead into a main, the latter must be in proportion—say from four to six inches calibre. The prices of tile of the above named sizes will range from twenty to fifty cents a rod.

In laying out a system of tile drains in a field, follow the general slope of the surface. If the field to be drained lies at the base of a hill from which water "seeps" out, first lay in a large head-drain, paralled with the base of the hill, to take up the water and prevent it from working down on the field.

Underdraining with mole plows has been very successfully practised in many places. The mole plow consists of a stout beam, fifteen or twenty feet in length, near the rear end of which is inserted an iron or steel coulter or standard, some four feet in length, an inch thick, and six or seven inches wide, with the front edge sharpened to cut the earth as it passes along. At the bottom end of this standard is fixed the mole, which is generally a conical shaped steel cylinder. The rear end of the large beam is rested upon a truck with apparatus for adjusting the depth to which the mole may be worked; to the forward end is attached a stout cable, operated by a capstan anchored some distance ahead which is turned by two horses or a pair of oxen, on a sweep-lever attached to the capstan. The mole, in passing through the earth, opens a channel, usually five or six inches in diameter, and if it works right, leaves the earth smoothly compacted on the walls of the hole, so that it will not readily crumble off and fill the channel. The cut made by the coulter or standard generally closes immediately so there is no

sifting down of dirt from that quarter. In these times, a good mole plow with its appurtenances will cost well on to one hundred and fifty dollars; ten years ago they were afforded for about a hundred dollars. In land where there is sufficient clay to bind the earth along the track of the mole, this style of underdraining is immediately available, and will last ten or a dozen years.—*Ohio Farmer.*

Steam-Plowing in New Jersey.

An interesting trial of one of the Fowler double-acting steam-plows has just occurred in Burlington county, New Jersey, upon a tract of 32,000 acres owned by Colonel William C. Patterson, of Philadelphia. Several hundred acres were planted in beets in 1868, with a result so successful that the proprietor determined to initiate and undertake the manufacture of beet sugar upon a large scale, and is making arrangements of a magnitude commensurate with the extent and importance of the undertaking.

The Commissioner of Agriculture was present during several days' plowing, and returned more than ever convinced of the practicability and necessity of introducing steam generally in the culture of all lands in the country adapted to this improved mode of culture.

The gang of plows consisted of twelve, six operating at a time, driven by two 14-horse power engines, one at each end of a series sixty rods furrows; the breadth cultivated at one movement was seventy-eight inches, the depth eight inches, and the furrows were laid with faultless regularity, at a rate of speed which would insure the perfect plowing of at least eighteen acres per day, and under very favorable circumstances twenty-five acres. The machine was guided easily by one man, and reversed at the end of the furrow without a moment's loss of time. The surface was rough, though the soil was a sandy loam, easy of cultivation.

Two other steam-plows of the same manufacture are already in use in this country, one in Louisiana and one in the west. The successful use of these machines must stimulate the introduction of others, or, better still, the more perfect adaptation by American inventors of steam cultivating machinery to the wants of American agriculture. It should be remembered that the principle upon which this machine is built was first applied in an American invention of more than thirty years ago.

It should be mentioned that Colonel Patterson has also in view the feeding and improvement of stock, and to this end he has already obtained a large number of English mares of the most approved blood, for breeding purposes.—*Agricul. Report for May and June.*

Experiment with Wheat on Heavy Clay Soil.

This field was ploughed after harvest to the depth of seven inches, the soil being of average fertility. After being ploughed, rotted manure was scattered over it when it was well harrowed until the surface was level and smooth. The wheat was sown by hand at the rate of one bushel and a peck per acre, and ploughed in with a small plough to the depth of two inches. At intervals of six feet, furrows five inches in depth were drawn. These furrows leave the beds or spaces high and dry, and as the wheat roots do not extend very deep, it keeps them from touching water when the ground is full of moisture. The soil being drained by the furrows, the roots also keep warmer than they otherwise would, and have a chance to get more air, and gather food and nourishment more readily. The wheat will stand more freezing in this way than when sown on flat surfaces, and when spring comes the ground possesses more warmth and starts the growth quicker.

The grain thus sown ripened some days earlier than the others, and produced at least one fourth more per acre of a better quality of wheat. It costs more labor to prepare the ground in this manner, but results pay well for all the additional trouble and expense. The beds can be readily thrown up to the width of a grain drill and the wheat can be drilled in with fine manure. There are often large quantities of valuable manure in the hen-house, or deposits in the out-houses which can be composted so as to be drilled in with the wheat. If this cannot be had, barnyard manure can be composted, by taking it a year before it is intended to be used, and mixing it with super-phosphates or guano, and muck or sods, and turning it over several times during the year, so that it will decompose. This is the cheapest way to get valuable manures, and to keep up the land and secure abundant crops. Home-made poudrette is easily made by emptying the contents of the privy on a bed of lime and charcoal, and mixing it with dry earth or dry leached ashes. It makes a powerful fertilizer for wheat, and pays farmers well for all the trouble and expense necessary to secure it. The quantity of hen manure, and others of like kind, that is allowed to go to waste, is enormous. If farmers were more intent on saving it up wheat crops would yield better and the quality would be superior. In gathering this manure a box of plaster should always be kept handy to sprinkle it and fix the ammonia.—*Farm Journal.*

A Down-East Girl, being bantered once by some of her female friends in regard to her lover, who had the misfortune to have but one leg, replied: "Pooh! I wouldn't have a man with two legs—they're too common."

WIREWORMS AND THIN SOWING.

In a letter to the *North British Agriculturist*, Mr. Mechi, the farmer of Tiptree Hall, says:

"Having just visited Hampshire, I was pained to see so many oats and barley fields almost or entirely destroyed by wireworm. All this might have been easily, cheaply and certainly prevented by the sowing of about six bushels of salt per acre just as the plants were coming through. I have some land subject to this pest; but for several years, having used salt, I have prevented their ravages. Oh, but, say or write many farmers to me, I have placed wireworms in salt, and they continued lively as grigs, and therefore it is clear that salt will not kill them. My reply has been—'Did you put any water with the salt?' This soon changed their opinion. It won't do to wait for evidence of damage before you apply the salt, for the withering of the plant only takes place after the stem has been bitten through by the wireworm. In some cases wireworms are the best friends to farmers, that is when they only destroy one-half or two-thirds of the too thickly sown plants, thereby teaching a wholesome lesson on thin seeding. A Hampshire farmer told me the other day, as I looked over his wireworm eaten oats-fields, that last year he had despaired of getting any crop, but the few plants left by the wireworm, having plenty of room for ample development, produced the most abundant crop he ever grew. I never drill more than two bushels of oats per acre, and I have grown a fine crop from only one bushel. Hampshire is rather noted for thick sowing, probably with a view to smother the weeds; for I was a good deal shocked, agriculturally, to find that it was not the custom, in the district I visited, to hoe out the weeds from the wheat. This, in Essex, would be considered a culpable and unprofitable neglect."

TRUFFLES AND MUSHROOMS.—Few persons have any correct idea of the enormous consumption of these fungi in some parts of Europe. Their importation to the United States has become a brisk branch of business in late years. Hence, our item is interesting. The truffles reaching Northern Europe from Sardinia, Corsica and Savoy have undergone an important reduction of price. In December, they cost 20 francs the half kilogramme in Paris. Now they are down to 8 francs for the same, and that at retail. The mushroom is even now the subject of very serious studies and researches on the part of Royal Agricultural Society of London, and there is soon to be an exhibition of mushrooms in the English capital. America could compete admirably for prizes in this line of production.

American Sumac.

We have on several occasions urged our people to attend a little to the mine of wealth about them in the shape of native sumac, instead of importing at the present prevailing enormous prices. We are glad to see that something is now being done.

Mr. A. S. McRae, oil and produce broker, Liverpool, writes to the New York Journal of Commerce that he received a lot of American sumac from Philadelphia, a sample of which was analyzed for him by Huson & Arrot, chemists, of Liverpool, with the following result:

Tannin	20.80	100.
Sand	75	
Vegetable matter	78.45	

On this result Mr. McRae says: "The average of tannin in the best Sicily sumacs, is sixteen per cent. (authority, Professor Muspratt.) Our first commercial analyists have seen it as high as twenty-six per cent. (and this only one sample within the last twelve months,) and America (Philadelphia) is producing at twenty per cent. Now for value: The lowest sumacs of any kind yields seven per cent. tannin, and sells at £8 10s. per ton—this is French. The Sicily sumac, giving sixteen to twenty-six per cent., sells at £13 to £24 per ton. American, therefore, with twenty per cent. tannin, should command (and will in time) £16 per ton!"

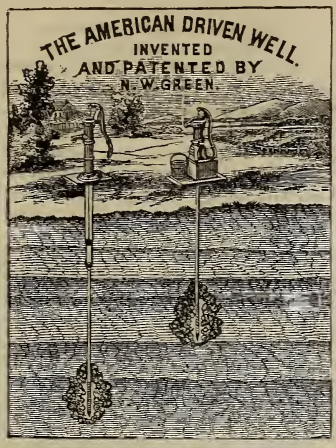
The sumac sent from Philadelphia was the *Rhus glabra*, which abounds on dry hills from Canada to Florida, and may be had for the gathering. There is no doubt but a fine business may be done with it. —*Gardener's Monthly.*

FARMERS cannot manure more cheaply or successfully than by plowing down green clover. This is especially true with farms located so far away from cities or towns as to make the manures obtained from them expensive. A poor field of grass will not pay the expense of converting it into hay, but may lay the foundation for a good crop of wheat, by plowing it down. It is not well to take every thing that grows off of the soil, and to put nothing on.—*Farm Journal.*

COURTSHIP.—*Shakespeare.*

SAY, that she rail; Why, then I'll tell her plain,
She sings as sweetly as a nightingale:
Say, that she frown: I'll say, she looks as clear
As morning roses newly wash'd with dew:
Say, she be mute, and I will not speak a word;
Then I'll commend her volubility,
And say—she uttereth piercing eloquence.
If she do frown 'tis not in hate of you,
But rather to beget more love in you:
If she do chide, 'tis not to have you gone;
For why, the fools are mad if left alone.
Take no repulse, whatever she doth say;
For, *get you gone*, she doth not mean *away*.

Example teaches more than words.



THE AMERICAN DRIVEN WELL.

The above cut and the following account of the Driven Well, we publish for the information of our readers. We have no personal experience in the use of the pump, but find it recommended by two or three correspondents of the *Country Gentleman*, of July 8th, 1869.

The following account of the origin of the "Driven Well," is from Judge Foote, Chief of the Board of Examiners of the U. S. Patent Office:

"Instead of digging and walling up a well in the manner heretofore practiced, a piece of gas-pipe, shod with an iron point and pierced with holes near the bottom to admit water, is driven down into the earth, and a Pump attached to the top, completes the well. In hard ground, an iron bar is first driven into the ground and withdrawn before the tube is inserted By these means there is accomplished in a few hours, perhaps in half an hour, what before was the work of weeks or months, and the very extensive use of which it is susceptible, renders it one of the important improvements of the day. This new art sprang up in the village of Cortland, in the State of New York. It grew out of the necessities of the War. In 1861, the applicant, Green, was the Colonel of a regiment, encamped at Cortland. It was then believed that our soldiers in Virginia had suffered from drinking at poisoned wells and springs. Col. Mulligan, commanding in Missouri, had been compelled to surrender by the cutting off of their supply of water; and some ready means of obtaining water for soldiers in the service suggested itself to Col. Green. He reflected much upon the subject, called together his officers for consultation, and various plans were suggested and discussed. * * * * * *Green is entitled to the merit of the first conception, etc.*"

A Washington correspondent says:—"It will penetrate the hardest soil by means of blows received upon a strong clamp, which firmly grips the tube. When a water-bearing *stratum* is reached it is ascertained by means of a plumb, lowered into the tube;—a pump is then attached to the tube and the water drawn up. Nothing could be neater or more effective. At a very slight expense, and with half a day's labor, a well can be sunk wherever a person may wish to have one. The water, unlike that from ordinary dug wells, is perfectly pure, and entirely free from superficial drainage—a great desideratum."

A foreign exchange speaks of the "American Driven Well" as a "marvelous invention for discovering the existence of water on the most arid land, and is attracting immense attention in Paris, and experiments are daily made with it in the neighborhood of Paris. The Emperor has purchased the machine, and personally superintends the experiments going on in the park of St. Cloud."

Persons wishing to use the wells or engage in the business can obtain information and authority by addressing J. S. Skinner, Amherst, Mass., who is general agent for the United States.

INVENTOR'S CERTIFICATE.—In order to secure the application of a superior Pump, I have adopted exclusively for he use of the AMERICAN DRIVEN WELL, the Pumps manufactured by COWING & CO. Seneca Falls, N Y., to whom all orders should be addressed. N. W. GREEN.

AMHERST, Mass., May, 1869.

Hominy.

It is surprising how little is known of this excellent, healthy food; and what an excellent substitute it is for potatoes. In point of economy as human food, one bushel of beans or hominy is equal to ten of potatoes. Hominy, too, is a dish almost as universally liked as potatoes, and, at the South, almost as freely eaten; while, at the North, it is seldom seen; in fact, it is an unknown food, except to a few persons in cities. By hominy we do not mean a sort of coarse meal, but grains of white corn, from which the hull and chit, or eye has been removed, by moistening and pounding in a wooden mortar, leaving the grains almost whole, and composed of little else but starch. It has often been said, not one cook in ten knows how to boil a potato. We may add another cipher when speaking of the very simple process of cooking hominy. We give the formula from our own experience, and from instructions received in a land where "hog and hominy" are well understood. Wash slightly in cold water, and soak twelve hours in tepid, soft water, then boil slowly, from three to six hours, in same water, with plenty more added from time to time, with great care to prevent burning. *Don't salt while cooking*, as that, or *hard water*, will harden the corn. So it will peas or beans, green or dry, and rice also. When done, add butter and salt; or a better way is to let each season to suit the taste. It may be eaten with meat in lieu of vegetables, or with sugar or syrup. It is good hot or cold, and the more frequently it is warmed over like the old-fashioned pot of

"Bean porridge hot or bean porridge cold,
Bean porridge best at nine days old."

So is hominy—it is good always, and very wholesome, and like tomatoes, only requires to be eaten once or twice to fix the taste in its favor.—*Miller's Journal.*

TO YOUNG MEN.—A good opportunity never waits. If you are not ready some one else will be.

CONSTITUTION

OF THE

Maryland Agricultural & Mechanical ASSOCIATION.

ARTICLE I.

This Association shall be styled the Maryland State Agricultural and Mechanical Association. The objects shall be to improve the condition of Agriculture, Horticulture and the Household Arts.

ARTICLE II.

The Association shall consist of, 1st—Such persons as shall subscribe to the Constitution, and pay to the Treasurer the sum of one dollar annually, thereafter—such persons, however, ceasing to be members on the last day of the year of the Association, as hereafter specified, unless prior thereto this annual contribution shall have been paid.

2d—Life Members, who by the payment of $10 on initiation, shall secure exemption from annual contributions.

3rd—Honorary members, exempt from contributions, who may be elected by the Association, but only on condition of distinguished services to the cause of Agriculture and Mechanics.

ARTICLE III.

The Officers of the Association shall be a President, one Vice-President for each county of Maryland, and for each adjacent State, or portion of a State represented by ten or more members; Corresponding and General Secretaries, and an Executive Committee, consisting of nine members, to be elected *viva voce*, or as may be otherwise ordered, by a majority of the members (not less than thirty) voting, at each annual meeting; and the officers so elected shall hold office from the commencement of the next ensuing year, until their duly qualified successors shall be prepared to enter on the discharge of their duties.

ARTICLE IV.

The President and Corresponding Secretary with the nine elected members, shall constitute the Executive Committee, in which shall be vested all the executive power of the Association, together with the entire control of its property, and the right to appoint and remove all other officers, and to fix their salaries, and to make, establish and fix all needful rules, regulations, exhibitions, meetings, contracts and appointments for the attainment of its legitimate objects and the advancement of its prosperity; subject, nevertheless, to the provisions of this Constitution and the charter of the Association.

The Executive Committee shall select one of its members as chairman, and shall have power to fill, for the remainder of the year, all the vacancies in its own body and among the constitutional officers of the Association; and shall meet on the first Tuesday in March, June, September and December, and as much oftener as they may deem proper, or may be called together by the President, or any other three members of the committee. A condensed report of the proceedings of the Executive Committee for the past year shall be rendered at each annual meeting thereof. Five of its members shall constitute a quorum for the transaction of business.

ARTICLE V.

The President shall exercise a general supervision over the affairs of the Association and the proceedings of the officers. He shall, when present, preside at the meetings of the Association and of the Executive Committee; he may designate, in writing, for a specifiod term, any of the Vice-Presidents as acting President in his stead, and either President or acting President shall have power to suspend any officer of the Association and appoint a substitute until the next meeting of the Executive Committee, who may then confirm or reverse such action.

All subordinate officers, agents, and employees of the Association shall be appointed by the President or acting President, and shall receive such compensation as may be fixed by him, with the approbation of the Executive Committee.

ARTICLE VI.

In the absence of the President or acting President, any one of the Vice-Presidents may be called to preside over the meetings of the Association, and the presiding officer, when desirous of participating in debate, or addressing the Association, which he shall not do from the chair, may do so by placing, temporarily, in his seat any Vice-President present. In case of the vacancy of the office of President, the Executive Committee of the Association, which may be convened for the purpose by either the Corresponding or General Secretary, upon not less than ten days notice in writing, shall select from among the Vice-Presidents a President, to act until the expiration of the year.

ARTICLE VII.

The Corresponding Secretary shall conduct the corres pondence of the Association. The General Secretary shall keep the journals of the Association and of the Executive Committee, and a roll of the duly qualified members of the Association, and discharge such other functions as may be committed to him by the President or Executive Committee, to whose instructions he shall be subject.

ARTICLE VIII.

The General Secretary, acting as Treasurer, shall give bond in such amount, and with such security as may be prescribed by the President, for the faithful discharge of his duties.

All the moneys and evidences of debt of the Association shall be entrusted to his charge, and he alone in person or by regular authorized deputies shall be entitled to receive or receipt for the same, all dues and payments which may accrue to the Association.

He shall pay out of the funds of the Association only upon orders of the President, or acting President and chairman of the Executive Committee, and he shall be responsible for the safe keeping and the disbursement as above prescribed, of all the funds of the Association.

He shall render the Executive Committee quarter-yearly accounts of the receipts and disbursements, accompanied by sufficient vouchers.

The books of the Treasurer shall be at all times open to the inspection of the Executive Committee.

ARTICLE IX.

No Constitutional officer of the Association shall receive any compensation, except the General Secretary and Marshal, who shall have their respective stipends at the periods when the same shall become due, established by the Executive Committee at its first meeting in each year.

ARTICLE X.

The stated Annual Meetings and Exhibitions of the Association shall be held near the city of Baltimore in the last week of October of each year, but the special meetings may be appointed at any other time and place, by the President, or any three members of the Executive Committee.—Twenty members of the Association shall constitute a quorum for the transaction of ordinary business. The year of the Association as regards officers, members, &c., shall terminate on the first Tuesday of December in each year.

ARTICLE XI.

This Constitution may be altered at any annual meeting of the Association, provided the amendments proposed be submitted verbatim, at any annual meeting, and be passed at the next annual meeting thereafter, by a vote of two-thirds of the members present, who shall not be less than thirty in number.

OFFICERS OF THE MARYLAND AGRICULTURAL AND MECHANICAL ASSOCIATION.

President:

WILLIAM DEVRIES of Baltimore.

Vice Presidents:

St. Mary's Co.—Col. Chapman Billingsly.
Anne Arundel Co.—Dr. R. S. Stewart.
Montgomery Co.—A. Bowie Davis.
Baltimore Co.—Wm. Gilmor, Jr.
Queen Anne Co.—Dr. W. H. De Courcey.
Prince George Co.—C. B. Calvert.
Harford Co.—Ramsay McHenry.
Cecil Co.—W. M. Knight.
Charles Co.—John W. Jenkins.
Kent Co.—D. C. Blackiston.
Worcester Co.—W. J. Ayedolette.
Howard Co.—John Lee Carroll.
Baltimore City.—Henry M. Warfield.
Talbot Co.—Col. Edward Lloyd.
Washington Co.—Wm. Dodge.
Alleghany Co.—Dr. S. P. Smith.
Somerset Co.—Dr. G. R. Dennis.
Frederick Co.—Col. George R. Dennis.
Carroll Co.—S. T. C. Brown.
Dorchester Co.—Col. James Wallace.
Calvert Co.—T. B. H. Turner.
Caroline Co.—Daniel Field.

Corresponding Secretary:

EDMUND LAW ROGERS.

General Secretary.

BENJAMIN H. WARING.

Executive Committee:

The President and Corresponding Secretary,
John Merryman, Chairman,
Hon. Oden Bowie,
Hon. James T. Earle,
Col. Edward Wilkins,
Gen. Edward Shriver,
Charles M. Dougherty,
N. B. Worthington,
Ezra Whitman,
E. G. Ulery.

Marshal:

Col. WALTER H. JENIFER.

Committee to Improve Fair Grounds:

William Devries,
Hon. Oden Bowie,
John Merryman,
William H. Jillard,
Jos. H. Rieman.

Engineer and Architect:

Genl. John Ellicott.

STATE FAIRS FOR 1869.

New York	Elmira	Sept. 14th to 17th.
Ohio	Toledo	Sept. 13th to 17th.
Virginia	Richmond	Nov. 2d to 5th.
Mississippi	Jackson	October 26th.
Am. Pomological Soc.	Philadelphia	Sept. 15th to 18th.
Iowa	Keokuk	Sept. 14th to 17th.
Kansas	Lawrence	Sept. 7th to 12th.
Maryland	Baltimore	Oct. 26th to 29th.
Illinois	Decatur	Sept. 27th to Oct. 2d.
St. Louis Ag. and Mechanical Asso'n,		Oct. 4th to 10th.

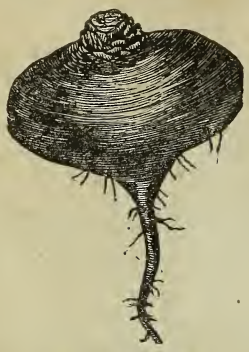
READING.

A taste for good reading has long been observed as one of the most effectual safeguards to young men, against vice and crime. In the first place, it serves to give employment in those hours of leisure and freedom from work which would be likely otherwise to be worse than wasted. To the young man who has no taste for reading, the evening hours become loaded with temptation. It is tiresome to sit moping by the stove, and he naturally drifts to the tavern, the saloon, or the billiard and card table.—There he finds others like himself, with vacant hours to while away, and thus grow up those habits and associations which soon eventuate in dissipation or lead to crime. We doubt if one instance in a thousand can be found of a young man's making shipwreck of hopes and character who was accustomed to spend his evenings at home reading good books; and we say to any parent that a well stocked library and an abundant supply of newspapers and magazines, with the habit of reading on the part of your boy, is worth more to keep him out of mischief, and to make a man of him, than any other single influence at your command.

Again, the habit of reading confers positive strength and elevation of character. The well-read man is usually the well-informed man. Reading is the great stimulus of thinking. The instances are rare of a great writer and thinker who was not himself a great reader. There is no stimulus of the mind so powerful as communion with other minds. The mass of young men, especially of the working mechanic, and trading classes, need this mental excitement to preserve a symmetry and equipoise of character. The farmer is in danger of having his thoughts fall too much into the routine of his daily life. A good book or newspaper expands them, sets them to work upon other topics, and gives them a wider scope. The mechanic, after mastering the details of his business, and perfecting himself in it, ought to leave his trade with his tools when he goes home at night, and in good reading find a wider cultivation of his whole nature. The trader who allows his mind to run constantly upon his business soon becomes a narrow, one-sided man. He, too, needs to get out of his rut and give his thoughts a wider range. To all of these the book, the magazine, and the newspaper is a necessity.

CHILDREN.—*Byron.*

Look! how he laughs and stretches out his arms,
And opens wide his blue eyes upon thine,
To hail his Father: while his little form
Flutters as wing'd with joy. Talk not of pain!
The childless cherubs well might envy thee
The pleasures of a Parent! Bless him!
As yet he hath no words to thank thee, but
His heart will, and thine own too.



EARLY BASSANO BEET.

EARLY BLOOD TURNIP BEET.

LONG BLOOD BEET.

LONG RED MANGEL WURZEL.

BEETS.

The Beet is a favorite vegetable, and is exceedingly valuable, being in use almost from the time the seed leaf appears above ground until we are looking for its appearance the next year. Treated like Spinach, the beet is unequaled, and can be used in this way until the roots are large enough for cutting up. To preserve the roots in fine condition during the winter, take them up carefully before hard frosts, and pack them in a cool cellar, and cover with earth. For spring use they may be pitted in the ground.—The seed will germinate more surely and rapidly if put in warm water and allowed to soak for twenty-four hours. The soil should be rich, mellow and deep. Plant in drills, about two inches deep, and the rows about twelve or fifteen inches apart. The plants may be thinned out and used as necessary from the time they are two inches in height, finally leaving the plants in the rows about six inches apart. Set the seeds in the drills about an inch apart. An ounce of seed will sow about seventy-five feet of drill, and five pounds is sufficient for an acre.—*Vick's Illustrated Catalogue.*

Look After Your Lawns.—A good lawn, which will last for many years, says the Germantown Telegraph, can be made as follows:

"In the first place the ground must be well prepared for the seed by deep plowing, careful pulverization and heavy manuring. Sow plentifully of the following seeds mixed in equal proportions: rye-grass, blue-grass and white clover, then roll with a light roller, and harrowing will be unnecessary. Commence mowing the young grass when six inches high, not too closely, and continue to do so, if with a scythe, every two weeks, but if with a machine cutter, every eight or ten days. *Every other year* top-dress in autumn with a good coat of barnyard manure evenly spread.

"This is the only way to secure a smooth, velvety, dark-green lawn, one of the most charming objects about a well-kept premises."

A correspondent of the *Utica Herald* finds nothing equal, as a destroyer of lice on cattle, to a strong suds of soft soap and rain water, to which is added common salt. This is applied by rubbing thoroughly over the animal.

DRILLING IN WHEAT.

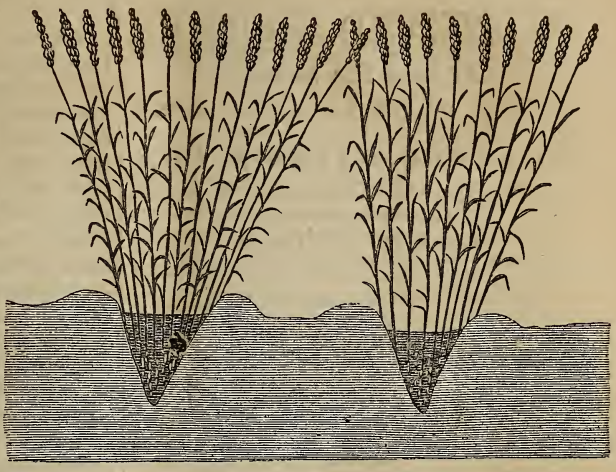
The observation and experience of the best wheat growers throughout the world establishes it as a fact, that wheat properly put in with a drill will uniformly yield more than that put in by any other known method. In other words, that drilling is the best mode of sowing wheat. This fact was established and almost universally admitted years ago, when the facilities for drilling in wheat were comparatively rude and incomplete. Of course, therefore, the superiority of drilling over all other modes of putting in wheat, is all the more increased now that wheat drills are made next thing to perfect.

But some farmers, who have never seen a field of drilled wheat, and who would not know a wheat drill if they were to meet it in the road, may be entertaining some doubt as to the superiority of drilling. Knowing that with such folks, seeing alone is believing, we have procured pictures of wheat growing from broadcast sowing and by drilling. The pictures are fair representations of the real state of the case.

It is apparent at a glance, that the drilled wheat is immensely superior in length of stalk, size of head and general thriftiness of plants. There are other benefits equally as great resulting from drilling wheat, that the picture only partially shows. These are:

1. *Saving Seed.*—Numberless experiments have demonstrated that it requires 25 per cent. less seed to sow an acre in wheat by the drill than it does broadcast. This saving is secured by the drill, depositing the seed with regularity, and at the proper depth to secure vegetation.

2. *The Increased Growth of Plants.*—The productiveness of a wheat plant depends on the extent to which it tillers.—That is the number of stalks that it sends out from one root. This tillering is increased in drilled wheat, by admitting air—by allowing a larger amount of ground to the support of each plant, by allowing of cultivation, and the easy and direct application of manure to the crop. Under these influences, the experience of the best wheat growers in the world, has established that drilled wheat will produce 25 per cent. more than that sown broadcast. But in order that a drill may be used effectively to put in any kind of seed the ground must be well broken up and thoroughly pulverized. This fact, we fear, will for some years to come, keep the drills out of general use. In the fullness of time, however, we hope and expect to see a good seed drill on every farm in Tennessee.—*Dixie Farmer.*



APPEARANCE OF WHEAT WHEN DRILLED.

APPEARANCE OF WHEAT WHEN SOWN BROADCAST.

Wheat to the Acre.

The following results of the application of "Excelsior" to wheat indicate its value as a crop grower. The writer, who used the fertilizer, is a gentleman well known in Charlottesville, Va., and as will be seen is addressed to the manufacturers:

CHARLOTTESVILLE, VA., Aug. 2, 1869.

Messrs. J. J. Turner & Co.

GENTS:—I have used your "Excelsior" for two seasons with the most satisfactory results. The crop of wheat of 1868 produced an average of 24½ bushels per acre from an application of 225 pounds Excelsior per acre, and the crop of 1869 averaged 31 bushels (by weight) per acre from an application of 430 pounds "Excelsior" per acre.

For the seasons of 1867 and 1868, during which Mr. A. J. Craven used your Excelsior, the results were highly satisfactory. You may expect many applications for your Excelsior from this section this fall for wheat. Very respectfully yours,

* FRED'K M. WILLS.

An old cloth or a wisp of straw twisted around a fruit tree will decoy most of the worms or millers to make their nests beneath it, when they can easily be killed.

THE
MARYLAND FARMER
AT $1.50 PER ANNUM,
PUBLISHED ON THE 1st OF EACH MONTH,
BY
S. SANDS MILLS & CO.
No. 24 South Calvert Street.
CORNER OF MERCER,
BALTIMORE.

S. SANDS MILLS, E. WHITMAN, } Publishers and Proprietors.

BALTIMORE, AUGUST 1, 1869.

TERMS OF SUBSCRIPTION:

$1.50 per annum, in advance—6 copies for $7.50—10 copies $12.00.

TERMS OF ADVERTISING.

1 Square of 10 lines or less, each insertion	$1 50
1 Page 12 months	120 00
1 " 6 "	75 00
½ " 12 "	70 00
½ " 6 "	40 00
1 " Single insertion	20 00
Each subsequent insertion, not exceeding four	15 00
¼ Page, single insertion	12 00
Each subsequent insertion, not exceeding four	8 00

Cards of 10 lines, yearly. $12. Half yearly, $7.
Collections on yearly advertisements made quarterly, in advance.

List of Officers of the Maryland State Agricultural and Mechanical Association.

In the List of Premiums, &c., of the State Society, published in our July number, as also in pamphlet form, with a partial list of the officers, an omission was inadvertantly made of the Vice Presidents, Executive Committee, Committee to Improve Fair Grounds, Engineer, &c., which we publish in the present issue, and which will be found on page 239. In this connection we also publish the Constitution of the Society, on page 238, deeming it of interest to our readers. The Association, through its several committees, are now vigorously at work perfecting the objects for which they were organized. The Executive Committee and Committee on the Improvement of the New Fair Ground are exerting every effort to the speedy completion of the track, grand stand, fencing, &c., all of which is being done under the skillful supervision and direction of Gen. John Ellicott, engineer and architect.

Large Crop of Wheat.—Mr. Meem will make on his Mount Airy estate, in Shenandoah county, Va., from ten to twelve thousand bushels of wheat. During harvest he had five reapers going, followed by fifty hands.

FRAUDS IN FERTILIZERS.

A correspondent, from whose letter we propose to quote presently, states that many farmers of his section complain of serious frauds in the quality of the fertilizers they have purchased, and indignantly denounce the deception that has been practiced upon them—such complaints have also reached us from other sources, and from gentlemen entitled to the highest credit. Less than a year ago, a large and influential farmer in Louisa county, Virginia, who before the war, was the first man to introduce the use of fertilizers into that county, and by his own example induced many others to follow suit, wrote to us on this very subject. He said that so greatly and so often had the farmers of the county been defrauded in the quality of the fertilizers purchased by them that they had concluded finally, in disgust, to abandon their use altogether. Knowing the really excellent crops which fertilizers properly compounded will bring, and the profit which the farmer would derive from their use, our correspondent was anxious to find some mode whereby the farmers of his vicinity might have implicit confidence that they were buying a genuine article. Doubting whether inspection and analysis by State authority would satisfy the farmers, he suggested that some person of knowledge and experience who was personally known to the people of his county, should be allowed to supervise the manufacture of the fertilizing agent—whether super-phosphate or ammoniated phosphate—and that it should be packed and forwarded to the purchasers under his guarantee and endorsement. The supervisor being paid by the manufacturer for his services. The proposition was a good one, but its radical defect was that it could only be made available in that county or counties where the supervisor was known and his integrity established beyond reproach.

Yet, that some means should be devised of preventing this scandal, every one will admit. We learn from another source that analysis made of a certain fertilizer which had been strongly pushed in the market—but the name of whose manufacturer was not given to us by our informant—showed in the course of a few months a steady depreciation from a high grade to a grade so low as to render it almost worthless. During the period when it continued its full percentage of fertilizing ingredients, and whilst its consequent effect upon the crops was noted with satisfaction by the farmers using it, testimonials were obtained in recommendation of its agricultural value, and these testimonials, we are assured, were paraded subsequently as an evidence of its superiority, after it had been adulterated to a shameful extent.

We do not ourselves believe that the reports of

analytical chemists are to be relied on, for we have known of instances to the contrary. But very often the fault does not lie with the chemist. The sample from which he made his analysis may have been fully up to the standard and may have been adulterated subsequently; or one lot may have been manufactured of a superior, and others of an inferior quality and all sold at the same price on the strength of his analysis of the better kind. That there has been a great deal of cheating in the article of fertilizers, and thus farmers have suffered grievously at times, from this cause, there is no doubt whatever, and it would be well, if it were possible, to convince the manufacturers of spurious fertilizers under the statute of frauds to make them pay dearly for their knavery. It is not a wrong done to the farmer alone, it effects to an equal degree the honest manufacturer, who suffers in the diminution of his business by the rascality of others. Both are interested in exposing these frauds and in bringing those who perpetrate them to justice. The manufacturer does not do so from motives of delicacy, and because the cry would be raised that the charge had been gotten up to injure a rival in business. The farmer does not do so because he failed, on receiving the fertilizer, to have it analysed, and it is only when he has lost his crop that he becomes aware of its spurious character. *Then* he may know that the fertilizer was bad, but he cannot prove it, and not being able to prove it, he hesitates to denounce the manufacturer lest the latter, with all the vantage ground in his favor, should sue the farmer for damages.

Our Maryland correspondent calls these frauds in fertilizers "organized villany," and the term, though coarse, is not too strong. He goes on to say:

"To the end therefore, that that which is right may be done in the premises, and that such a law may be framed as shall best meet the wishes of all concerned, the attention of all who are interested is called to the following suggestions:—

First—Those who have been induced to purchase an article which fails to meet its recommendations, are requested to send the particulars; date, amount, name of parties, loss of crop, &c., to Dr. H. G. Lawrence, Clarksville, Maryland, who is collecting these cases for compilation.

Second—The views of farmers, &c., are also requested in regard to what the provisions and character of the said law should be.

As the law passed by the last Legislature of the State concerning the inspection of fertilizers has encountered considerable opposition, and as the enforcement of that law has been postponed to await the action of a future Legislature, the co-operation of the friends of a protective law is requested in the manner above specified, that an end may at once be put to the fraudulent transactions alluded to.

The agricultural and country press of the State and agricultural societies are earnestly urged to publish such portion of the above as in their judgment will secure the co-operation of the purchasers of artificial manure.

While upon this subject, and to throw some light upon the readers reflections concerning it, we give the law of Maine in regard to adulterated manures. We do not concur in the wisdom of exactly such a law for this State, but if Maine in her small trade of fertilizers secures her citizens from fraud, Maryland, with her immense trade, will be no less forward in the protection of her people.

The law of Maine provides that commercial manures sold in that State shall have affixed to every parcel which may contain fifty pounds or upwards, a printed label specifying the name of the manufacturer or seller, his place of business and the percentage it contains of soluble and insoluble phosphoric acid and ammonia. Those who affix false labels or fail to comply with this provision are to be fined ten dollars for the first offence and twenty for every subsequent offence, and any purchaser may recover in any action of debt, twenty-five cents for every pound of soluble and six cents for every pound of insoluble phosphoric acid and thirty-five cents for every pound of ammonia deficient.

The results of the above investigation may be published in the *Maryland Farmer* in time for ample discussion."

The call upon the farmers of Maryland to give in their several experiences in the use of fertilizers, with a view to the publication of the names of those manufacturers who have sold a spurious article for a good one is open to the grave objections we have already noticed. No farmer, unless he could produce the identical article purchased, prove that it had not been tampered with on the way, or after it reached the farm, and show by analysis its utter or comparative worthlessness, would like to run the risk of deliberately accusing the manufacturer with base and disreputable fraud—nor would any publisher like to print that charge and name the offender unless fortified with proofs too strong to be resisted.

But are such knaves to go unpunished? Not so! Wherever suspicion attaches, let the necessary proofs be forthcoming that the article has not been tampered with since it left the warehouse of the manufacturer, and then take and seal up a sample in the presence of witnesses and send it to the Agricultural Bureau in Washington to be analysed. Put a number only on the sample, keeping the name of the manufacturer secret until the official report of the analysis has been made. Then if a fraud has been committed, let the people know it and expose the manufacturer. We are sure that Col. Capron, the chief of the Agricultural Bureau, if he were informed of the purpose of the analysis, would order it to be made immediately, and the report of the analytical chemist of the Bureau would be conclusive on the subject.

The Maine law which our correspondent quotes, is, in our opinion, a good one, and might be adopted with advantage by our Legislature. But even that law, which demands that the bag, barrel, or parcel shall have a label on it specifying the nature of its

contents, calls for an analysis to justify the fact. There is really no other test that will suffice.

But after all, the true policy of every farmer is not to desist from buying fertilizers because some unscrupulous manufacturer has practiced a disgraceful fraud upon him. That fact should only admonish him to be more careful in the fure. All manufacturers are not dishonest. There are those in the trade whose honesty is above reproach, whose integrity is without stain; not one but many of them bear this character, and we could name them if it were not invidious to discriminate. Who they are, any farmer, if he will take the proper pains to do so, can easily learn, and of such and such only ought he to buy.

THICK AND THIN SEEDING.

To the Editors of the Maryland Farmer:

As there seems to be considerable diversity of opinion on the subject of thick and thin sowing of wheat seed, and as the people in my own county vary in quantity, some sowing five pecks, some six pecks, others two bushels, I should very much like to hear from your readers in different sections of Maryland and Virginia as to their experience in either thick or thin sowing, stating quality of land, mode of sowing, &c. The experience of our wheat growers would be of considerable interest to many young as well as old farmers, stating at the same time the difference in quantity when drilled and when sown broadcast. Can't you induce them to write for the *Farmer* on the subject? Yours, truly,

HOWARD COUNTY.

Improved Blackberries.

To the Editors of the Maryland Farmer:

If gentlemen will look around they will find as large blackberries growing on their lands as those sold by nurserymen at $3 and $5 per dozen. I have one plant in my garden that cost $3, and the berries are no larger than those dug from my waste lands. It is my habit to tie a white string or mark around plants bearing the largest fruit during the months of July and August. ECONOMY.

CULTIVATION OF GUMBO OR OKRA.—A correspondent at Fairfield, Md., sends us the following on the subject of cultivating okra:

"Please inform your correspondent that my plan in the cultivation of gumbo or okra is to prepare the ground as to manuring, &c., the same as for cabbage. Do this and sow the seed in the hill, the same distances each way as for cabbage. I sow a half dozen seeds in each hill and thin to one when two inches high; hoe and work the same as cabbage. I generally sow the seed about the 20th of April."

POTATO HARVEST.

To the Editors of the Maryland Farmer:

The potato harvest being near at hand, and being aware that but few farmers possess the potato plow or digger, I will give you my plan of plowing out potatoes with the common sod plow. When the potatoes are full ripe (which is indicated by the death-like appearance of the tops,) select your best broad-breasted plow, one that will cut a width of ten inches, attach to it a pair of steady horses, and employ your best plowman for the work. Presuming the rows run north and south, commence, for example, at the northwest end of the lot, and bar the first row of potatoes, running a safe distance from them; return on the east side of the second row, throwing the earth from the potatoes. So continue until the barring process is finished. In the meantime select a strip of light loam, having an incline to carry off water. Let your men dig two or more oblong pits, ten inches deep, three feet wide, and any length you please, throwing the earth on the edges. Spread dry leaves or straw on the bottom of the pits several inches thick. Now, presuming we have dry weather, and it is likely to continue, gear your horses to the same plow and two carts; marshal your men in two gangs—say four to pick large and medium, and two to pick small potatoes—depositing the two grades in separate carts, previously putting the plow in motion. Commence at the first barred row; run the shear well below the potatoes, turning the entire ridge to the right and exposing the potatoes; return on the second row, and so continue. If the distance to the pits is far, additional conveyances (to prevent detention) may be found necessary. Dump the potatoes carefully to prevent bruising; deposit the small potatoes in separate pits for stock feeding or for seed. If the potatoes are spread after landing they will become dry enough for earthing over on the same day. When all the potatoes are picked that are visible, run a heavy drag or rotary harrow over the lot, which will unearth those that are covered, or present the gleanings to the deserving poor. Form roof-shaped piles, and spread a thickness of eight inches of dry straw and six inches of earth over them. When earthing, commence sixteen inches from the potatoes and the trenches; several inches below the level of the pits; tramp the earth as you progress, and make the surface solid and even with the back of a spade; insert wisps of straw or ventilators on the apex, which may be removed in the month of November, when an additional layer of eight inches of earth ought to be added, at the same time open the trenches for the escape of water. The potato plow as now constructed is of no practical utility, except for working in sandy or light loam. CLAIRMONT.

FOR THE MARYLAND FARMER.

NOTES AND COMMENTARIES.

BY PATUXENT PLANTER.

In the June number of the *Maryland Farmer* there is an enquiry as to the name, properties and mode of usiug *Potash* in agricultural cultivation. To this you make full answers. As however I have used it in another way than that suggested by you, with great and convincing satisfactory results I take the liberty to mention it. Several years ago I requested Mr. John Kettlewell, a highly intelligent manufacturer of fertilizers in Baltimore, to compound for my own use a mixture called Potash-Plaster, being one-fifth Potash and four-fifths Plaster, or one part Potash and four parts plaster, thoroughly incorporated and intermixed. Both articles were then at just half the price they are now, and a barrel could then be bought for $4 of this mixture. He was so pleased at the suggestion that he prepared several hundred barrels and they sold readily. I applied it at the rate of one barrel to the acre just after the ground had been furrowed one way before making the tobacco hills. It had a visible effect in coloring the land for a few days, as would be seen from the effects of goose ordure. The tobacco grew finely and was materially benefited by the application, more so than by the application of 200 lbs. of Peruvian Guano to the acre. Both were applied at the same time and alongside. I used it for several years. I never tried it on any other crop, but I am now satisfied it would be a finer manure for potatoes applied in the trenches or drills, and also as a top-dressing. The mention of Potatoes reminds me to ask some of your intelligent readers to suggest in your columns a remedy for the destruction of the potato vines or leaves by the potato bug. They have been peculiarly destructive the present year.—Some persons contend they do not injure the potato, or retard its growth, but sad experience has taught me to know that they do.

Treatment of Colts.

In the same No. there is a sensible article on the treatment of colts. All know how inconvenient it is to have working mares with sucking colts, and how often it keeps the mare poor and the colt lean and "surfeited," from nursing while the dam is heated, and the colt suddenly cooled by a rain-shower. If suffered to run along with its dam while she is working, the colt becomes wearied to death, and running about destroys much of the crop, or injuries the young plants. To prevent this that distinguished gentleman and capital farmer, Major Lee of Prince Georges Co., Md. tried the experiment and found it succeeded well. He treats, as I learn from good authority, his colts as calves are often treated. When a few days old, eight or ten, the colts are taken from their dams, and weaned by being haltered in a darkened stable, and learned to drink diluted milk for a few days, then skimmed milk, and soon clotted milk or clabber, of which they soon become as fond as pigs are; nice hay, cut fine and softened with water is placed before them, which, with a little green grass sometimes, they soon learn to eat. In a few days they are weaned, then turned out to pasture in a lot convenient and called up morning and night, haltered and given their milk. If the weather be stormy they are left in the stable and fed with hay. As winter approaches and the milk becomes scarce, grain in small quantities is substituted. In this way I am assured his colts are as well formed and grow large if not larger than colts reared the usual way by running with the mares. They are always gentle, stand by the halter, and broken or gentled more easily than left untamed until wanted for service. Another advantage is, the mares not nursing are surer to breed, are better able to do hard work, keep in better order, and not having the system so much exhausted by breeding, as if they nursed their young. Under this system, more colts can be reared, and it is said, better colts, than under the old system, where they run with the dam all summer, she hard worked and the colt half starved, and then weaned by being turned suddenly to shift for itself in a corn field of dried fodder and crab-grass, and wintered with the cattle on straw and corn stalk fodder, perhaps without shelter. The celebrated racer and getter of racers in the Olden Times of Maryland racing—Hall's "*Union*," lost his dam when he was foaled and was reared on cow's milk. He became so fond of it, that he consumed the milk of three cows before he was nine months old—but he was allowed the fresh milk drawn three times a day and given direct from the cows. After he was gradually weaned from the milk he was given meal gruel gradually made thicker until he acquired a taste for oats and hominy. Young colts should be fed the first winter on oats and corn ground together about as fine as small hominy, and unsifted, with an occasional mixture of ship-stuff or bran.

Canada Thistle

Is a horrible pest, and becomes so from negligence on the part of the owner of the soil. It never appears in large quantity at first, but one seed dropt by a bird or brought on the wings of the wind will soon rear a numerous family. The only way to keep clear of it is to destroy every one that is seen. If every man in a neighborhood carefully uprooted each plant that first appeared on his farm, the pest would be soon gotten rid of at little cost or trouble. It can thus be more easily destroyed than that other intolerable running weed, called in this section

"*Sand-burr*," which is as bad for land and animal as the *Thistle*, and much more troublesome to eradicate, for it is an insidious, sneaking, soft little plant that comes up on sandy land as thick as hair on a cow, grows with rapidity, and spreads over the ground like running briars, rearing at every joint a short spear tufted, and studded with small burrs sharp as needles and burying themselves into the hair or flesh at the least touch, holding on as tight as ticks. Nothing will destroy it but first burning its stubble and then thorough cultivation for at least two years.

Agricultural and Mechanical Association.

Your July number, it is not flattery to say, is a crack number; full of interesting matter, and on a variety of useful subjects, but is more than usually agreeable to the farmer-reader, because it heralds the opening in October of the "Maryland State Agricultural and Mechanical Association." This is an institution much needed since the old society closed its labors, after having rendered incalculable benefits to the farmers, to the State, and to the city of Baltimore. Such an association of agriculturists and mechanics must necessarily advance the prosperity of these twin callings, inseparably bound to each other as they are by a mutuality of feeling and interest, and conducted as this society will be upon a grand scale, under the management of reliable business men of worth and ability, distinguished for their zeal and experience in such matters, it will and must prove a success, and rapidly aid the development of the resources of the State and add to the commercial and rural wealth of town and country. It is not in a spirit of fault-finding when I add, that in looking over the list of premiums, I was surprised not to find a single premium for essays on different subjects, or premiums for encouraging experiments in culture of crops, renovation of soil, horticulture and such things of more importance and requiring more labor, thought, patient research, talent and energetic enterprises than curing bacon hams, or growing the largest pumpkin; but it is in its infancy, and such, with other grave and more solid matters will be attended to in time. So far, the executive committee have done much for our people to be proud of and deserve our gratitude.

Annual Fair of the Montgomery Agricultural Society.—The Fair of this Society will be held on the 1st, 2d and 3d of September next, at Rockville, Md. The Executive Committee have issued the List of Premiums, which are on the most liberal scale. Our manufacturers and others would do well to present to the people of Montgomery and the adjoining counties, through this Fair, the evidences of their skill as mechanics and producers.

SHEEP HUSBANDRY.

Franklin, Pa., July 21, 1869.

To the Editors of the Maryland Farmer:

I read your valuable magazine carefully every month, looking anxiously for it and always for some article on my "hobby," *sheep raising*—seeing valuable articles from observing and experienced farmers containing varied and important information, but none on sheep. I trust you will not deem it presumption on the part of a young farmer in adding his *mite* to communications of such value daily received by you—"but pass my imperfections by"—my object being to give my experience on that, the most profitable branch of stock-raising, with the hope of calling out something good. Experience show us we live in a climate particularly adapted to sheep raising; being free from diseases which often play such sad havock amongst flocks. I bought a flock of one hundred and twenty ewes—average cost two dollars and fifty cents per head. In that flock were several fine Southdown and Cotswold ewes, with a very fine Cotswold buck. The wool was in a bad condition when the sheep were bought, but sold for one dollar per head. Lambs to over the number of ewes were dropped about the second week in February—those from Southdown and Cotswold ewes were very fine. In May I picked out all of the finest ewes, forty-five in number, and forty ewe lambs—the cross between the Cotswold and Southdown and the genuine Cotswold—sold balance with wool for thirty-eight dollars more than original cost of flock; add to that two hundred and fifty dollars present value of my flock; a clear profit of two hundred and eighty-eight dollars on an investment of three hundred dollars. The cost of feed in winter being about three dollars (three hundred pounds hay)—when snow was on the ground. I only had to contend against dogs, which I am confident were kept off by a dozen bells put upon the sheep, the noise of which, on approach, frightening the meanest and most cowardly of animals, a sheep-killing dog. The sheep were kept fat by constant salting and a tolerable fair pasture. It has been argued that salt was injurious in winter season. I saw no bad effects from it; the idea being advanced when the sheep are on dry food. Flies are said to be somewhat injurious in summer. Mr. Cockrell's plan, being salt sprinkled upon tar, at salting place. Sheep lick the salt and the tar is smeared upon its nose, which catches the young worm from the egg of the fly before reaching the nose. As this branch of farming *will pay*, I trust this poor apology for a letter will call forth something useful as well as ornamental; giving views on different breeds of sheep, showing best cross, best mode of wintering, general treatment, time of put-

ting bucks with ewes, at what age to wean lambs, and in fact every suggestion experience may make. The harvest is over with us—a good one—as the reports from everywhere show. Farmers are generally in good spirits. I unite with them and you in gratitude to the Disposer of Events for the abundance which has crowned the early harvest, and earnestly wish the like return from the latter harvest and the succeeding year, all that happiness which abundant crops and a consciousness of having been instrumental in extending useful information are calculated to produce. Yours,

SMADA.

How to make a Thick Osage Hedge.

Considerable anxiety is now being manifested hereabouts by many farmers in regard to fences. Fencing material of all kinds, as well as fire-wood, is steadily growing scarcer and dearer. Fences on every hand decaying must be renewed in some way; and, driven by necessity, farmers are gradually planting Osage orange and honey locust hedges.—Many have tried white willow, but generally failed to make a fence, either through want of knowledge of how to manage it, or neglect, or both. We have some Osage hedges in this country fifteen years old and there is no winter-killing; they are generally on sandy, gravelly ground, with a porous or dry subsoil.

I want to tell your readers how to grow or train the Osage so as to make a tight fence that will stop pigs, chickens, and even rabbits to a great extent.—Set the plants eight or ten inches apart; cultivate well the first season. In the fall mulch it well to prevent winter-killing. This mulch will keep the weeds down, with a little attention, for the next two years, and will also give a vigorous growth to the hedge. After three years' growth in hedge-row, plow a deep furrow two and a half or three feet from the hedge, with landside of plow next the hedge and have two men, one with a shovel, the other with buck mitts and thick boots to bend (not cut) the hedge and tramp it to a horizontal position, or level with the ground diagonally with the line of hedge. Tramp the tops in the furrow, and throw dirt on them to hold them in position, leaving two and a half or three feet of the base uncovered.—Thus treated they will send up from ten to twenty vigorous sprouts from each plant. This being done in April, the latter part of June clip it within six inches of base of sprouts. The September following clip it six inches higher, and continue the clipping semi-annually until your hedge gets the desired height, and it will be two or three feet thick at base and impassable to man or brute.—*Ger. Telegraph.*

Where contentment is there is a feast.

FIRST ANNUAL FAIR OF THE CARROLL COUNTY AGRICULTURAL SOCIETY.—We have received the List of Premiums and Regulations of this Fair, to be held in Westminster on the 28th, 29th and 30th of September, and 1st of October, 1869. The list of premiums is well worth the attention of all who desire to be brought in contact with the agricultural public, as we are assured that the attendance as well as the display will be unusually large. The Fair grounds are located on the Baltimore turnpike, at the east end of Westminster, and contain thirty acres of land, enclosed with substantial fence nine feet high, with stabling sufficient to accommodate over three hundred head of stock. There is also on the ground a track of half a mile long, in excellent condition.

The following are the officers of the Society: President, John E. Smith; Vice-President, Jeremiah Rinehart; Secretary, William A. McKellip; Treasurer, Richard Manning; Managers, David Fowble, Geo. W. Matthews, Edward Lynch, Hashabiah Haines, John L. Reifsnider.

THE MARYLAND AGRICULTURAL COLLEGE.—Commodore Buchanan having vacated the position of President of the Maryland Agricultural College, located near Bladensburg, the trustees have elected the Rev. SAMUEL REGESTER, D. D., at present a presiding elder of the M. E. Church South, and a gentleman eminently qualified by his administrative abilities to discharge the responsible duties of the position.

FINE OATS.—Mr. J. H. Quimby, residing in Harford county, exhibited to the editors of the Aegis and Intelligencer, about the 16th of July last, a very fine specimen of oats raised by him. They were of a variety called the "Norway oats." One seed raised thirteen stalks and another eleven, and each stalk contains an average ef two hundred grains. Mr. Quimby sowed two bushels of these oats on one and a half acres of land, and expects to raise at least one hundred bushels to the acre. This variety was never before cultivated in this vicinity. Farmers would do well to give this their attention, as the introduction of so prolific a variety would be a great benefit to their interests if successfully accomplished.

COCKLE.—*Lyopnis Githago*). The common cockle has a blue flower and black seed. It grows from two to four feet high, has from 90,000 to 100,000 grains to a pound of seed. The large cockle is very hard to get out of seed wheat. It should be pulled up in the field, and the seed wheat should be picked over by hand, if it contains any.—*Farm Journal.*

Tilton's Journal of Horticulture.—The July number of this monthly well sustains its high reputation. Boston:—Tilton & Co.—$3 per year.

WINE MAKING.

In answer to enquiries made by W. B. J., of Virginia, we submit the following modes of making wine from grapes and blackberries:—

Mr. Buchanan, of Cincinnati, Ohio, gives the following directions for wine making. Being a gentleman of great experience, we presume they can be followed with safety:

"The well-ripened bunches of grapes are cut from the vine, and all unsound or immature berries picked out. Each day's picking is mashed at night, by pounding in a barrel with a beetle—stem and berries—or passing them through a mill. The contents are put upon a press, where about one-third of the best juice runs off without any pressure. After the first pressing, the outer edges of the 'cheese' are cut off for eight or ten inches, the parings thrown upon the top, and the screws again turned. This is repeated two or three times, but the juice from the last pressing is dark and astringent, and is only capable of making an inferior wine; hence it should be kept separate. The juice from the first pressing is put in large casks, allowing space for fermentation. No brandy or sugar should be added to the best Catawba juice, as it makes a better wine without, and is strong enough to keep well. One end of a syphon is placed in the bung-hole of the cask, and the other end terminates in a pail of water. The fermentation commences in a day or two, and the carbonic acid generated passes through this pipe and bubbles up through the water in the pail. This will show how rapidly the fermentation is going on, and when it ceases. In ten or fourteen days the syphon may be removed, and the casks filled up, and the bung-hole driven lightly—in a month tightly. In mid-winter the wine is carefully drawn off into other casks, and the lees, added to the pomace of the grapes, are used to make brandy.

"The wine will be clear and pleasant to drink in a month or two after the first fermentation ceases. A slight second fermentation takes place in the spring, and it will only be necessary to loosen the bungs; when it is over, the wine will be clear in two or three months, and safe to bottle, but it is usually better to defer it until the following November. The only secret of wine making is to have well ripened grapes, perfectly clean press, casks and everything else used, and having the casks constantly bung full after fermentation, so that no air shall come in contact with the new wine."

The following on wine making was written for Downing's Horticulturist, some years since, by the late N. Longworth, of Cincinnati, Ohio, the most experienced Vintner in this country:—

"We gather our grapes at full maturity; carefully pick off all green, rotten, and decayed grapes; pass them as speedily as possible through a machine, (thoroughly seasoned, and all possible taste from the wood extracted,) to separate the stems from the grapes, and mash them, without breaking the seed. Instead of placing them in a towel and bowl, we place them on a large clean press, in which not a nail is driven, and the wood of which has been fully seasoned; and even if of beech wood, should not allow a particle of the taste of the wood to remain in it. Press it as speedily as possible, keeping the last hard pressing separate from the earlier runnings. Place the *must* in clean casks, from which no taste could be obtained from the wood, or any previous brandy or wine holdings, unless from liquor from the same kind of grape. We immediately place the cask in a cool cellar, do not fill it entirely, but as soon as the fermentation commences, stop the passage of the strength and aroma of the grape as far as possable, by putting in a tight bung, through which passes a crooked syphon into the cask to receive the air; and the opposite end of the crooked syphon is placed in a vessel of water; and the syphon is continued until the fermentation is nearly over, when the syphon is taken out and a tight bung driven in, giving air by a small gimlet hole two or three times a day, for three or four days; after which all air is excluded till the wine is clear, when it is racked, and the cask thereafter kept full and tight. If we wish a superior article, we do not deem it fit for bottling till four or five years old. If fining were necessary, and isinglass or the white of eggs, to fine a pipe, cost $20, we should never think of using beech chips."

Pick the grapes off the stems when fully ripe, rejecting bad ones. Pass them through one of the Wine Mills to tear open the skins, but not to bruise the pulp. Press moderately; then get all that remains in the must to make brandy or an inferior wine of. Strain and fill into clean barrels; then insert a bent tube tight in the bung, and let the lower (outside) end rest under the surface of water in a bucket, so that while all the gas shall escape, the air will not get to the wine. When it has done fermenting, rack it off into clean barrels, bung it up, and set in a cool place; bottle it in a few months. The great secret of making new wine is to select only the best grapes, and not press out the sour portion of the pulp. Nothing is here said about the numerous mixtures of water, sugar and grape juice, which are frequently concocted and sold under the name of wine, but only of the pure juice of the grape, properly fermented.

Mrs. Greenough contributes the following through the Maine Farmer:

There is no wine equal to blackberry wine when properly made, in flavor or for medicinal purposes, and all persons who can conveniently do so, should manufacture enough for their own use every year, as it is invaluable in sickness as a tonic, and nothing is a better remedy for bowel complaint. Measure your berries and bruise them; to every gallon add one quart of boiling water. Let the mixture stand twenty-four hours, stirring occasionally; then strain off the liquor into a cask; to every gallon add two pounds of sugar; cork tight and let it stand till the following October, and you will have wine ready for use without further labor, that every family will highly appreciate and never do without afterwards, if they can help it.

To make a wine equal in value to Port, take ripe blackberries or dewberries; press the juice from them; let stand thirty-six hours to ferment, lightly covered; skim off whatever rises to the top; then to every gallon of the juice add one quart of water and three of sugar, (brown will do;) let it stand in an open vessel for twenty-four hours; skim and strain it, then barrel it; let it stand eight or nine months, when it should be racked off and bottled and corked close—age improves its quality.

To Make Cider.

Pick all the apples, rejecting those not sound, wash them clean, and afterwards let them lie and get dry. Grind and press them, using no water or straw, or any substance that will give the cider an unpleasant taste, as on the purity and cleanliness of the apples depends the quality of the cider. Strain the juice through woolen or other close bag, put into clean barrels, and set in a moderately cool place, keeping the barrel full all the time, so that the impurities may work off at the bung. After it has done fermenting, carefully rack it off, let it stand a few days, and bung it up. As the air tends to sour the cider, it is a good plan to provide a bent tin tube, one end fastened in the bung and the other to drop down into a bucket of water. This will let all the gas pass off, and not let the air get to the cider. The quicker the pomace is pressed after being ground the lighter will the color be, and darker if not pressed for twenty-four hours after being ground. The cider from the second and third pressing will be the richest. The reverse is the case in making wine, as a severe pressure on the *must* makes sour wine. Cider-making should be conducted with all the care that wine-making is.

Most any good sour apple will make cider, but more generally an apple full of juice, and not very good to eat, will make the best. The Virginia crab perhaps excels all other apples for cider-making.

When bottled up with a little rock candy, and wired, it will, after standing some time, sparkle like champagne when opened.

To get cider very strong, expose it in a tub in extremely cold weather, and remove the ice that forms. As this can be only water, it leaves the cider that remains of additional strength.

Any substance put in to arrest the fermentation is of doubtful value, as all good cider must be perfectly fermented to be healthy. You had better depend rather on careful and clean making, and bottle tightly at the proper time.—*Hickok.*

Salt and Lime Mixture for Agricultural Purposes.

This mixture is made by dissolving one bushel of salt in the least water possible, and then slacking with this three bushels of lime hot from the kiln.—This is all the salt that can be used by this method to slake the lime. The most valuable lime is that made from burning oyster and clam shells. Another method recommended by C. W. Johnson, is to mix one bushel of salt with two of lime dry, under cover, and allow it gradually to decompose, and unite the chlorine of the salt with the lime. It may be turned occasionally for two or three months, by which time it will be well united together. And whatever way is taken to form the mixture, it should not be used immediately; but should remain incorporated at least six weeks, that the chemical union may be well formed. The chemical changes that take place are—the chlorine of the salt unites with the lime and forms a coarse chloride of lime—the soda of the salt is mostly set free, and probably slowly attracts carbonite of soda. This mixture has a remarkable decomposing power, and if you mix three or four bushels of it with a cord of swamp muck, leaves, or any vegetable matter, it will soon be reduced to a powder. It is most excellent to mix with coarse manure for the purpose of decomposing it and rendering it fine. After thes our muck from wet places is decomposed by the salt and lime, it is then in ripe condition to be composted with barn-yard manure, and compost becomes as valuable as the barn-yard manure alone. Almost every farm has a supply of muck which might be turned into valuable manure.—*Toronto Telegraph.*

Horticultural.

TRANSPLANTING IN AUTUMN.

The question is often asked, What is the best time in autumn to set out trees? Can we do it while the leaves are yet green, or wait till near winter, after they have all fallen? The answer may be, Do it whenever the work can be well done, and while the soil is in proper condition as to dryness, for working properly. If done early, the leaves must be all first carefully stripped off, to prevent the rapid evaporation of moisture. We have known trees to have been entirely spoiled in a few hours by wilting, from carelessness in not removing the leaves when taken up. In the northern States, nurserymen usually commence digging by the first of October. Some trees have entirely ceased growing by this time, including generally cherries, plums and standard pears. If the leaves are removed, they may now be taken up and transplanted, as well as at any time in autumn or the following spring.—Others have not fully completed the ripening of the young wood, which is effected through the assistance of the leaves. The only harm done in taking them up at this time, is in giving unmatured shoots on some parts of the trees, instead of those well ripened and hardened; and the result will be that some of the tips may be nipped by the frosts of winter, or they will not start in spring with so much certainty and vigor. Hardy kinds, such as the apple, will not be much injured in this way; and the peach, although tender, should be shortened back in spring in any case.

It will be safe, therefore, with a few exceptions, to take up trees any time after the first of October—care being taken to do the work well, as already indicated.

The soil should be in such condition as to be easily made fine and mellow, so that it may be filled in perfectly among the roots without having interstices. Staking against wind, or effecting the same purpose by a small mound of earth about the stem, should not be omitted.

We have never succeeded better than by taking up trees about mid-autumn, heeling them in by burying the roots and half the stems for wintering, and setting out early in spring. They, however, do quite as well set out in autumn, provided they are hardy sorts, and the site is not a windy one.—In heeling in for winter, it is absolutely essential to till in all the interstices among the roots very compactly with fine earth. Many trees are needlessly lost by carelessness in this particular. The roots are injured by dryness or mouldiness, and the mice find easy access among the cavities. To exclude mice effectually, the heeling ground should be clean and a smooth mound of earth raised on all sides about the trees.—John J. Thomas.

Remedy for Peach Worm:

A correspondent in the *Country Gentleman*, Mr. I. G. Mask, of Moorfield, West Virginia, writes as follows on the destruction of this terrible pest:

"There is a handy means for the destruction of this heretofore fatal enemy to the peach tree, which is practiced here, which has proved certain beyond peradventure. It is simple, of easy application and expeditious. It consists of the use of boiling water applied to the collar of the tree, in quantities varying according to the age of the tree. In small trees, say one inch in diameter, half a pint is sufficient, and a pint is enough for larger ones. Remove the earth from around the tree a few inches from the body and a few inches in depth, and just pour the water boiling hot on the exposed roots, and it will kill every egg as well as worm, with positive certainty. It has been tried here time and again upon trees that were more than half killed, and a perfect restoration has been the result in every case. No danger need be apprehended from the effects on the trees. Where a large number of trees have to be operated upon, a fire should be made in the orchard for heating the water, so that it can be applied boiling hot. Considering the importance of this remedy to peach growers who may not have heard of it, I deem it but common justice to give it circulation through the columns of your paper. Its certainty as a remedy may be implicitly relied upon."

Setting Out Strawberry Beds.

Strawberry plants can now be set out from the middle of August to the end of September. It is true August is generally a very warm and very dry month, but in case of the absence of rain the newly planted beds must be watered every day or two until they become established.

The bed should not be in a damp situation or the soil heavy. Dig deep, pulverize finely, and apply a pretty heavy dose of good barnyard manure. Let the divisions be about three and a half feet in width and as long as may be desirable. Set the plants about eighteen inches apart, insert them in the ground firmly but not deeply, and then keep clear of all grass and weeds.

As to the varieties, we would choose for our own planting the following: "Triumph," "Russell," and "Hovey," and if we wished another, Jucunda. They should be planted in this wise in making up a full bed, with half a dozen or a dozen divisions: 1 Triumph, 2 Jucunda, 3 Hovey, 4 Russell. In this way a fine crop is assured with as much certainty as anything can be. The last of November protect the plants with a light covering of straw the first year; after that, if needed, light manure may be substituted as a covering.

A half crop may be expected the first season. A mulch of straw cut two or three inches long will keep the ground moist and cool, which this berry likes, and smother the weeds. This should be applied the first part of April. An application of spent tan is also excellent.—*Germantown Telegraph.*

From the New York Evening Mail.

THE VINE IN EUROPE.

Observations by an American Vine-Grower.

Practical Details for Practical Men.

Sketches in Switzerland and Italy.

BY CLARK BELL.

SECOND ARTICLE.

Leaving Switzerland for Italy, you do well to leave the valley of the Rhone at Brieg, and commence the ascent and passage of the Alps by that magnificent road constructed by the first Napoleon, known as the "Simplon Pass."

You leave behind you the region of cultivated lands. You see no more the vine or vineyards, and are shortly in the land of eternal snows and cold. You pass by the wonderful galleries and tunnels, made to resist even the avalanche, over the well nigh impassable steeps of these magnificent mountains. As you approach the summit you meet with the houses of refuge, erected for the safety of storm-stayed travellers, and the Hospice of St. Bernard, with its monks, and the celebrated dogs of the breed named after their order, right on the very summit of the pass, with the enormous glacier of the Simplon overhanging the mountain top behind it, while quite near you is the majestic Mount Rosa, with its whole top capped with an enormous glacier that overlaps and rolls down like a mantle on its enormous shoulder.

Looking forward you see, at the great distance spread out before you, the beautiful fertile fields of Italy, and behind you take your last look at the Valley of the Rhone and of French Switzerland.

Descending more rapidly than your ascent, you soon leave the uncultivated heights behind you and come by this route to the Italian Frontier, and pass shortly

Into Italy.

On the Italian side of the Alps, even while you are still in Switzerland, the grape, the vine, and the culture seem wholly Italian, differing as widely in their characteristics as the people themselves; and on all the Italian slopes of the Alps down into the plains of Lombardy, the vine and its treatment is wholly different from that upon the French side.

The vine on the Italian slope is planted in rows, about twelve feet apart, and often a much greater distance, and these vines are suffered to grow to the height of six or seven feet, and then they are trained out on a rude arbor, usually six or eight feet from the ground, so that the fruit is picked from underneath this overhanging arbor and from above the head of the picker.

I saw in many vineyards the vine staked out laterally from the row, and trained and cultivated to this lateral stake, instead of an overhanging arbor, but this culture was exceptional and the former almost universal.

This method of culture was in vogue at Domo Dosola and all the villages after you pass the Italian frontier, on the Simplon route over the Alps, and indeed all through the country of the Italian lakes which are surrounded by mountains.

It is safe in speaking of Italy to say that this culture is universal on all the southern slope of the Alps, and for the whole of Northern Italy in the region of the mountains, and until you strike the beautiful and fertile plains of Lombardy, where it wholly changes.

In the valleys of the rivers that flow down from the high Alps into the lakes of Italy the silk worm tree is largely grown and constantly in connection with the vine. The vine will be planted in rows and trained on its arbor trellis; then a row of the mulberry trees will be planted, twenty to thirty feet apart, and sometimes even more, and oftentimes crops of cereals will be grown in the strip of land between the row of vines and the row of trees.

The vine itself is wholly different as you reach Italy, and is very much larger and more luxuriant than in France or Switzerland.

The contrast is extraordinary in the vine between Italy and the French portion of Switzerland.

I saw between Domo Dosola and Baveno, on Lake Maggiore, as I drove along the valley of the Italian River, grape vines at least seven inches in diameter, looking almost like trees, which, I have no doubt, were not as old as the Swiss vines I examined at Sion, a century old, but not two inches in diameter.

The vine in this portion of Italy more resembles in its strength and luxuriance the vines in America, frequently spreading and reaching over a large arbor, and more luxuriant and strong in growth than Western New York or the celebrated vineyards at Hammondsport, N. Y.; more like the growth I have observed in Kansas or have heard described in California.

In Northern Italy.

As you leave the mountains and strike the broad, fertile and beautiful plains of Lombardy, which seemed to me to be the very garden of Europe, you encounter a wholly different method of cultivation.

To commence with, this is the most fertile, productive and highly cultivated land of all Europe. We have in America no cultivation of soils that I am familiar with, except in gardens or in single and isolated instances, that at all compares with this portion of Italy.

Throughout all this extensive and lovely country are planted, in rows of from sixty to one hundred feet apart, the mulberry tree, which is always pruned square off at the top, and which, no matter how old, is never allowed to grow high. These trees are planted usually from twelve to twenty feet apart in the row, and between these rows of trees crops are planted and grown of roots, cereals, and in some cases grass and even meadow. The face of the country, therefore, resembles one vast orchard, or rather garden, with the mulberry trees set thus regularly and carefully throughout it.

At the root of each of these mulberry trees are planted the vines, and never less than three roots and sometimes as many as even seven or eight are thus planted at the base of each of the trees, and the vine trained direct into the tree. The tree and the vine oftentimes planted at about the same time grow thus together, the tree even supporting the vine and bearing the burden of its fruit.

This culture prevails about Milan, Florence, Genoa, Turin, and, indeed, all of Northern Italy. In some parts the tree thus supporting the vine was willow, and sometimes fruit trees, but with occasional exceptions near Florence on the hill sides, and in some parts of Tuscany I observed no other culture.

There is much to be said in favor of this culture,

as the grape thus allowed to spread and planted so sparsely must needs produce enormously, as all know who have observed in our own country what astonishing results are often seen from a single vine when thus allowed to grow into a tree.

It is very ancient at all events, for the old classic writers, in speaking of the vines, often allude to them as growing in the trees, and for centuries this h as been the Italian system of culture. The system of close pruning, as practiced in France and Germany, is wholly discarded, and the soil is nowhere devoted, so say, exclusively to the vine, but ever used for crops and for the silk worm, whose labor forms a very important product of Italy.

In many parts of Italy the vine thus planted is festooned from one tree to another in the row, by the extension of the growth of the plant, so as to connect the whole row of trees by the most graceful festoons of the vine, and nothing can excel the beauty of this manner of culture, as the distance the trees are apart make the branches of the vine bend down and form the most graceful and picturesque effects.

The Wines of Italy.

While it cannot be for a moment disputed that Italy possesses by far the most favorable climate and natural facilities for the culture of the vine in the highest perfection, it must be as certainly conceded that her wines are far inferior to those of France or of Germany.

The result of my observation led me to attribute this result to three causes:

1. The culture itself; being planted so sparsely, trained so high, with little or no pruning, and consequently with little care, is not calculated to save and husband all the best qualities of the fruit.

What could be expected of a vineyard in this country which would be suffered to run so at large and to waste, with the use of the knife almost wholly ignored.

2. There can be no question but that the system of planting crops between the vines, and raising the cereal products of a country from the same identical soil that produces the fruit, must enervate the grape, and what is worse, doubtless, make its culture and production secondary, in the mind of the proprietor, to his other crops.

A vineyard to be brought to the highest perfection should be planted to the vine alone, and it should be asked to produce nothing else but the grape. Again, this mixture of husbandry with the work of the vineyard strikes at the necessary elements of cleanliness, care and delicacy of handling the wine, which is not found in Italy, and which in France and Germany are deemed absolutely and indispensably essential to success in making a good wine.

3. Italy, mainly for political reasons, and on account of her anomalous and peculiar position, has not been an exporter of wines, to a large extent.

She has had an enormous home consumption, which she has always supplied.

She has thus lost one of the great incentives to excellence in the production of her wines, and this has perhaps been one powerful reason why so low a standard of excellence is maintained in the manufacture of wines in Italy.

The grapes are never carefully separated as in France or Germany. The fruit, ripe and unripe, sound and unsound, is taken and all crushed together, and all varieties promiscuously intermingled and trodden, the press being rarely used. They are then turned into vats, usually that have remained uncleaned from the last year's vintage.. They will not suffer the wine to ferment separately and undisturbed, but often they will add new must to that which is undergoing fermentation, when fermentation is at its height. In short, all those essentials which in France are esteemed indispensable to good wine, are ignored in Italy, as a rule; but there are some exceptions, and consequently some most excellent wine is produced.

If the culture was as carefully conducted, and the same treatment of the must observed as in France, there can be no question but that very superior wines would be produced, for the climate is neither equalled or excelled in all Europe.

Some idea may be formed of the extent to which the vine is cultivated here when the enormous quantity necessary to supply the home demand is considered, to say nothing of the production for purposes of commerce.

Throughout Italy, as indeed the most of Continental Europe, the bottle of wine is ever placed on the table at meals by the side of each plate. It occupies, there as prominent a place as water does at our own.

Water is very rarely drank except it is mingled with wine, and all drink wine at meals—men, women and children, and it is very rare to find in Northern Italy any so poor but that they can take the common or ordinary wine with their food.

If that meal consisted of only bread, it would be washed down with "vin ordinaire."

What lager is to the German, ale or porter to the Englishman, wine is to the Italian.

The use of spirits, as whiskey, rum, gin, or brandy, so universal in Great Britain and many parts of Northern Europe, is quite unknown in these countries and the cotrast between these people and the gin and whiskey drinking poor of Great Britain, so far as temperance is concerned, is very marked and very much to the credit of the former.

While the wines usually served at the table in Italy are poor, there are good wines in this country. That splendid wine grown at Naples known as the "Lachryma Christi," is too well known to be lost sight of. It is called "The Tears of Christ," and is the wine which, after drinking, a Dutchman is said to have exclaimed: "O Christ, why didst thou not weep in my country!"

There are some brands of very good wine made in the Roman States, as the "Albano," but perhaps the best wines produced in Italy are those of Tuscany, where more pains is taken by certain proprietors in the manufacture, and where particular vineyards and brands have established reputations based mainly on their assimilating more to French methods in the making and treatment of their wines, and where all the essentials of cleanliness in the casks, care in the fermentation and in assorting the ripe and unripe fruit, are as carefully considered as in the most celebrated of the French or German vineyards.

(To be continued in our next.)

The English rule is to weigh sheep when fattened, and divide the weight by 7 and call it quarters.—Thus, sheep weighing 140 lbs., would give 20 lbs. the quarter as dead weight. If the sheep are in good condition, this rule is sufficient for all purposes. Poor sheep will fall below the mark, and extra fat ones go over it.

Ladies Department.

"HEARTH AND HOME," PRIZE SONG.

The following song was decided, by a majority of the committee on songs, to be entitled to the prize of $100 offered by the "*Hearth and Home.*" That committee consisted of Miss Alice Cary, Bayard Taylor, Esq., and C. A. Dana, Esq.

THE KINGDOM OF HOME.

DARK is the night, and fitful and drearily
Rushes the wind like the waves of the sea:
Little care I, as here I sing cheerily,
Wife at my side and my baby on knee:

King, King, crown me the King:
Home is the Kingdom and Love is the King!

Flashes the firelight upon the dear faces,
Dearer and dearer as onward we go,
Forces the shadow behind us, and places
Brightness around us with warmth in the glow.

King, King, crown me the King:
Home is the Kingdom and Love is the King!

Flashes the lovelight, increasing the glory,
Beaming from bright eyes with warmth of the soul,
Telling of trust and content the sweet story,
Lifting the shadows that over us roll.

King, King, crown me the King:
Home is the Kingdom and Love is the King!

Richer than miser with perishing treasure,
Served with a service no conquest could bring;
Happy with fortune that words cannot measure,
Light-hearted I on the hearthstone can sing,

King, King, crown me the King:
Home is the Kingdom and Love is the King!

[WM. RANKIN DURYEE.

A STOLEN CHILD.

The Italian revolution was at its height. The mountain defiles were swarming with marauders, and the nobility had flocked to the capital, or sought refuge from Imperial avarice in another land. Those who preferred a life of freedom to the servility that attended submission sought refuge here.—Among them was Cassina de Rita, in whose veins stirred the blood of the Colonas, and whose sword had been first in defence of his country's outraged liberties and insulted honor. Young in years, he was old in fame; and when resistance was no longer of any avail, with his wife and child he came to New Orleans. His wife was the daughter of a noble, high in rank, and a soldier under the banner of Emanuel—an only child—sole heiress to his riches—her son the heir of his title. "Like our own war," said Mr. F., "the Italian revolution had engendered fierce jealousies and family dissensions. Because the wife had adhered to the fortunes of her husband he disowned her—no rebel's child, he said, should wear his coronet. To the exiled family these threats of the old noble mattered but little. Time, they thought, would appease his resentment, or, if it did not, they could rear a new heritage in the new land they had come to.

Their many accomplishments, their high rank and fame, gave them a place in our best society. The wife was flattered and admired, the husband, the observed of all who did honor to virtue or loved a patriot. Years wore away the strangeness of their new home, and their sympathies and feelings rapidly became identified with those of our people. No name stood higher among our merchants than that of the exile, while society lavished upon the beautiful Italian all the admiration it bestows upon its queens. The memories that clung to the past were remembered more as a dream than a reality, and the grief they at first had felt had grown into a regret, just as the clouds sometimes darken with impending tempest, yet mellow into golden twilight. The pomp of high estate was an illusion now seen through the mist of years, while content and plenty sat smiling at their door.

As I said before, years had fled, and no word of reconciliation had ever passed between the father and his exiled daughter.

But one night the child disappeared. The mother was frantic—the father wild with apprehension. The city had been searched through and through. In this emergency Mr. I—and myself were applied to. The circumstances under which he had disappeared convinced me at once that he had been abducted; and when the mother explained that only the night before a poor Italian soldier had applied for shelter and protection, I was sure he knew something of the strange evasion. When I said as much to them, they then revealed the family history I have told to you. I knew then the cause. Unappeased in his dislike of the exile, the old noble sought to gain possession of the heir of his title, and rear him himself, or crush the young life he hated.

If my conclusions were correct, I had no time for delay.—The affair demanded haste. Before midnight Mr. I—— and myself had searched the coast from the Barracks to the Forts. In a secluded nook—a quick bend of the river—lay the vessel we were in search of. The Spanish flag was hoisted, but I knew Italian skill had shaped its hull, and now controlled its course. It was a perilous enterprise to board it alone, and even if we succeeded in finding the boy, it was still more doubtful if we could escape. Still I had no thought of abandoning the enterprise. Just, however, as we were meditating a plan of approach to the vessel, an old man appeared upon deck, leading the child. I knew the child at once.—The ebon curls clung around a fair young face, on which the trace of the mother's beauty yet lingered. A moment more and they had descended to the gangway and sought the shore. Now was our time. It took but an instant to snatch the child from the old man's hand and lift him to the carriage. But in the moment of our triumph, a shot was fired from the vessel—it shattered the glass of the door and buried itself in the temple of the child. I sprung from the vehicle, holding the bleeding boy in my arms. The old man saw it, and raising his hand with a gesture like triumph, sprung down the bank and into the ship. That night it sailed. I returned the child to the parents yet alive, but it died within an hour—a victim of plots and ambitions its young spirit had never known. Its life a sacrifice to human pride.

The parents yet dwell in the city, and age has hallowed their grief and solved their sorrow into a memory; but the young wife's beauty faded with the life of her child, and her great black eyes look sad from beneath her snow white hair. To her the joys of life are gone, and hope beckons from the sky.—*New Orleans Picayune.*

MARRIAGE AND DEATH.—Why is it that the marriage announcements are immediately followed by obituary notices in our papers? Does death follow so close on the footsteps of marriage? Is grief the page that carries the train of happiness? Does the tomb open wide its dark and ponderous jaws beside the nuptial couch? 'Tis the plan of life. The gleeful songs of light and merry hearts to-day, to-morrow will turn to funeral chants, and sobbing and lamenting be heard instead of glad, pealing laughter! We read to-day of our friend's marriage, and wish them joy; to morrow we see their deaths recorded, and say "Peace to their ashes" Our merriest songs are timed to footfalls of death, and the "silver chord" is as fragile as a spider's thread; and the "golden bowl" is more brittle than glass.

DOMESTIC RECIPES.

To Drive Away Roaches and Ants.—Take powdered borax and scatter wherever the cockroaches most frequent, and they will disappear directly. A safe and efficacious remedy for a most annoying vermin. Ants can be driven out of cupboards if lumps of camphor are scattered about them. Ants object to strong scents, and in tropical climates are prevented from entering rooms by powerfully scented oils and gums.

A sponge can be sprinkled with sugar and laid upon shelves where ants are numerous; the next morning plunge the sponge quickly into boiling water, and most of the intruders will be destroyed. Then scatter camphor and you will have no trouble.

To Make Good Yeast.—To one large handfull of hops add a quart of cold water; boil about twenty minutes, when strain into one quart of flour; when it becomes sufficiently cool add one pint of good brewers' or bakers' yeast; stir well and let it stand until fermentation ceases, (which is usually in about two days,) then thicken with corn-meal, roll out thin, cut into small cakes, and dry in the shade.

Bread.—Boil in two quarts of water one pint of potatoes, drain off the liquid on one pint of flour, mash the potatoes very fine, then add them to the flour; stir well together and when cooled sufficiently stir in the yeast; when it begins to rise pour into the flour, (which should always be warmed previously;) knead in all the flour possible, then take out upon the knead-board and knead well, place it where it can be kept warm until it rises, when knead again, make into loaves, let it rise, and bake one hour for large loaves—three-quarters for small ones—in a quick oven. No flour whatever should be used after the first kneading, when it should be made so stiff that it will require none.

My Corn-Bread.—1 quart of sifted meal, 1 small teacup of flour, 1 teaspoonfull of saleratus, 2 teaspoonfulls of cream of tartar, ½ teaspoonfull of salt, 3 tablespoonfulls melted lard, 3 eggs. This makes a delicious loaf of corn-bread.—Baked in a thick square loaf and cut in squares, it looks like elegant sponge-cake when put on the table.

Canning Corn.—Mrs. William B. Hazleton, of Mahopac Falls, in the *Michigan Farmer*, says: I take the sweet or even green corn before it gets too old, cut it from the cob, fill my cans full, pressed down. I then take a boiler, lay some sticks in the bottom for my cans to set on, I then lay the covers of the cans on loose, fill the boiler with water so that it will cover half way up the sides of the cans, put the cover on the boiler, boil for three hours briskly, take out and press the covers on tight. Will keep well and have all the flavor of green corn.

To Remove Warts.—Apply to the wart with the end of a knitting needle, a little *fuming nitric acid*, to be had of the apothecaries. Repeat the application once or twice, and in two or three days the excrescence will come off, without pain or leaving any mark. A few cents' worth will remove a thousand warts. It is a liquid and should be used with care.

Caper Sauce, White.—Put whole capers into melted butter, adding a little of the vinegar they are pickled in, a pinch of salt, and sufficient cream to make it white. This is used principally for boiled mutton.

To Preserve Flowers Fresh.—A vase of flowers can be retained in freshness much longer by using soapsuds or soaped water. Try it.—*Above from Germantown Telegraph.*

Water in which potatoes have been boiled is said to be certain death to lice on most animals.

USEFUL RECIPES.

Fever in Animals.—When your animal has a fever all stimulating articles are to be avoided. Bleeding to reduce the circulation; purging for removing irritating substances from the bowels; cooling drinks to allay thirst and supply decreased secretions; rest and quiet to tone down the system, are what common sense would seem to dictate, and what nature would seem to require. This is safer than to cram the animal with a multiplicity of cures, without regard to anything except the fact that something is the matter. We trust farmers and owners of animals will heed the admonition here given.

Rheumatism in Cows.—The treatment of rheumatism should consist in placing the animal in a moderately warm place, and giving diet of a generous character. In cases where the pain is severe, the tincture of aconite in twenty drop doses may be given with advantage. Friction to the joints will be found beneficial; and, where much swelling exists, the liniment of ammonia may be rubbed in daily. Cooling applications do not seem to suit this complaint. The enlargements in the joints sometimes become chronic, and should then be treated with applications of the tincture of iodine.—*Stock Journal.*

Red Water in Sheep.—After providing the animals with comfortable quarters bleed freely and administer the following. Take Epsom salts, one ounce; linseed oil, one ounce; gentian, one drachm; ginger, one scruple; warm water two ounces. For a lamb give half this amount, but to a full grown sheep the entire quantity. Foment the abdomen with warm water—a lamb, in fact, may be placed altogether in a warm bath. In cases of recovery a change of food must be afforded, and a short, sweet pasture should be preferred.—*Stock Journal.*

Itch in Horses.—A correspondent in *Southern Cultivator*, writes:—"I had a horse affected last spring with he Itch. I bled him freely, and then gave him a teaspoonful, every other day, of a mixture of equal portions of Sulphur and Antimony. At the end of a week the soars had disappeared, and in a short time the horse was covered with a fine coat of new hair."

Salt and Ashes for Horses.—Those keeping horses should, twice a week, throw in a handful of salt and ashes. Mix them by putting in three parts of salt to one of ashes. Horses relish this, and it will keep their hair short and fine. It will prevent bots, colic, etc. A little ground sulphur mixed with salt and ashes, and given once in two or three weeks, is also beneficial. All domestic animals will be thus benefitted.

Interfering in Horses.—To prevent interfering in a horse who is turned out in the front feet, the shoe should be applied to fit closely on the inside, and the nails applied around the toe and to the outside. In some instances a small piece of leather placed betwixt the sole and the shoe, and allowed to project outwards, has a very good effect in preventing interfering.

Ringbone.—A correspondent of the *Country Gentleman* undertakes to *cure* "ringbone." He says:—"Make a small bag and fill it with copperas; tie it on the foot so as to cover the bunch, and wet it frequently with chamber lye. It will prevent it from growing larger and cure the lameness. Is this so? We always thought and still believe that ringbone is incurable.

Molasses for Sore Teats on Cows.—Some one says: Keep a cup of molasses at the barn in the season of the year when it is needed, and apply it to the teats occasionally. It is a sure preventive as well as cure.

SOME RYE.—"*The Southweet*," published at Christiansburg, Va., of July 10, notices a crop of rye in his parts as follows:

"Col. R. G. Trigg has a field of rye on his farm near this place, the straw of which will average six feet. Some of it will measure seven and a half. The heads are large and well filled. Out of a single head he got one hundred and eight fat grains. Such fine rye would, it is reasonable to suppose, make a fine TONIC."

It would make a pretty TRIGG TONIC, if friend Welty, of Frederick county, Md., could get a chance at running it through his stills, of Eichelberger notoriety. After that process, friend Gardner in his simplicity would pronounce it the "ambrosia of the gods," that is, unless he attended the Sængerfest in Baltimore last month, and mingling with the host of Teutons, has already proclaimed for lager beer, which has become as popular with those who were born out as those in Faderland.

A PLEA IN FAVOR OF CROWS.—A correspondent in the Cambridge *Herald* makes the following statement in favor of that much abused bird, the Crow:

"During the past season my little son brought home from the West a young one, which grew up, becoming quite domesticated. Its hideous noise greatly annoyed me, which I endured partly to gratify the fancy of the boy and to study its habits.

A few days since, the potato bugs attacked, in countless myriads, the vines; the Crow, in return, attacked the bugs, devouring them in great numbers and frightening the remainder away. The tomato vines became infested with a poisonous worm, which shared a similar fate."

WHEAT VS. CHEAT.—Wheat never turns to cheat, nor does cheat ever turn to wheat. If cheat is not sown with the wheat, and there is none in the ground, there will be none found in the growing crop. Cheat is often found growing so closely among the roots of wheat as to have the appearance of having come from the same seed. But that is not the case. Wheat never will become cheat, however badly it may be damaged or degenerated. The two are quite different plants. Cheat (*B. Sacalinus*) is very injurious to wheat fields. It germinates and stools in the fall, and stands the winter far better than wheat does. It can easily be cleaned and sifted out of seed wheat. It contains about 80,000 grains to a pound of seed, and is deemed a nuisance by all farmers.—*Farm Journal.*

NORTH CAROLINA STATE FAIR.—This State Fair will be held in Raleigh, commencing on October 19th and continuing four days. We have not received the list of premiums.

DOGS ON THE FARM.—The poetry of the dog sentiment is as effectually "done for," where the thieving, murderous mastiff gets into a flock of sheep, as is the admiration for the "noble red man," when his nobility is demonstrated in bleeding scalps and murdered victims. We take no stock in dogs as farm animals, or pets in the city. They howl when they should sleep, bark and growl without discrimination, and are quite as likely to bite the wrong as the right man. We quote from two correspondents of the department of agriculture, upon the merits of the dogs. One writes from Arkansas:

"If you could induce Congress to tax all dogs, it would enable the South to raise on an average fifty sheep to each family, with little or no cost. Before the war, I had a flock of seven hundred sheep, that did not cost me more than $150 for all feed and attention. It is strange that no legislative body will give us the protection we ought to have."

Another, from Georgia, tersely reports:

"No sheep raised here, on account of dogs.—Twenty dogs to one sheep here.

YOUATT, in his book entitled "The Horse," says this animal will never drink hard water if soft is within reach; that he will leave clear transparent, hard water, for a pool or stream of soft, even though the latter be discolored with mud. Very cold water from the well will make the hair rise up, and not unfrequently cause an attack of gripes.—Give soft water when practicable, especially if the animal be ailing.

A correspondent of the Countryman says, giving a sow a slice of salt pork each day for eight or ten days before farrowing will prevent danger from her eating her pigs.

"*Dixie Farmer.*"—This valuable agricultural weekly commenced its third volume in July. It enters the new year with great hopes, as expressed by our friend, the editor, Hunter Nicholson, Esq., in a recent editorial, in which he announced that the *Dixie Farmer* "will go on regularly, and it will continue to improve as it grows older." The "Farmer" is really worthy the patronage of our Southern people, and its price puts it in the reach of all. Address Nashville, Tennessee—$3 per annum.

Burke's Weekly for Boy's and Girls.—This paper is steadily progressing in public favor. The *third* volume began in July, with a new and thrilling story, by the author of "Jack Dobell, or a Boy's Adventures in Texas," to be called *The Adventures of Big-Foot Wallace, the Texas Ranger*. Terms $2 a year, or three copies for $4.50. Address J. W. Burke & Co., Macon, Georgia.

The American Journal of Dental Science.—This is the oldest periodical in the world devoted exclusively to the propagation of the principles upon which Dental Surgery is founded. It is issued on the first of each month, and contains not less than fifty pages of reading matter in each number. Edited by F. I. S. Gorgas, M. D., D. D. S., Baltimore: published by Snowden & Cowman, at $2.50 per per annum.

BALTIMORE MARKETS---July 28.

Prepared for the "MARYLAND FARMER" by JOHN MERRYMAN & Co., BALTIMORE.

[*Unless when otherwise specified the prices are wholesale.*]

BEESWAX—Western 40 cts.; Southern 42 cts.

COFFEE.—Rio 16@18 cts., gold.

COTTON.—Low Middling 32½@32¾ cts.; Middling, 33 @34 cents; Ordinary Upland 28@29 cents.; Good Ordinary 29½@30 cts.

FEATHERS.—Common to mixed 40@50 cts. per lb.; fair to good 55@60 cts.; prime live geese, 80 cts.

FISH.—No. 1 Bay mackerel $29@31; No. 1 Shore $24 @26; No. 2 $19@20; No. 3 $12@13; medium $10.50@11; Labrador herring $7.50@8.00; gibbed $5.50@6.50; Codfish $6.50@7.50, per 100 lbs.

FLOUR—

Howard Street Super	$ 6.00	@	$ 6.50
" " Shipping Extra	6.75	@	7.00
" " High Grades	7.00	@	8.00
" " Family	8.25	@	9.25
Western Winter Super	6.00	@	6.25
" Shipping Extra	6.75	@	7.00
" Choice Extra	7.25	@	7.50
" Family	7.75	@	8.50
Northwestern Super	0.00	@	0.00
do Extra	6.50	@	7 25
City Mills Super	5.00	@	6 75
" " Standard Extra	6.00	@	6.25
" " Shipping brands Extra	7.50	@	7.75
Patapsco, Horicon, Reservoir and Weverton Family	00.00	@	10.50
G. W. Legg's Family	00 00	@	00.00
Union Mills Acme Family	00.00	@	00.00
Greenfield Family	00.00	@	11.75
James S. Welch's Family	00.00	@	00.00
Baltimore High grade Extra	10.00	@	10.50
Ashland Family	00.00	@	10.50
Linganore	00.00	@	10.50
Rye Flour	6.00	@	6.00
Corn Meal—City Mills	0.00	@	5.50
Buckwheat—New York ₱ 100 lb	0.00	@	0.00
" Pennsylvania	0.00	@	0.00

FERTILIZERS—

The Agent of the Peruvian Government having closed out the entire Stock at this Port, dealers are charging $80@85 per 2000 lbs., as to quantity.

Turner's Excelsior	70	₱ ton of 2000 lbs.	
Turner's Ammo. S. Phos	55	₱ ton	"
E. F. Coe's Ammo. S. Phos	55	₱ ton	"
Soluble Pacific Guano	60	₱ ton	"
Redonda Guano	30	₱ ton	"
Flour of Bone	60	₱ ton	"
Andrew Coe's Super-phosphate	60	₱ ton	"
Baugh's Raw Bone S. Phos	56	₱ ton	"
Baugh's Chicago Blood Manure	50	₱ ton	"
" " Bone Fertilizer	46	₱ ton	"
Zell's Raw Bone Phosphate	55	₱ ton	"
Rhodes' do	50	₱ ton	"
Mapes' do	60	₱ ton	"
Bone Dust	45	₱ ton	"
Horner's Bone Dust	45	₱ ton	"
Dissolved Bones	60	₱ ton	"
Baynes' Fertilizer	40	₱ ton	"
" Fine Ground Bone	45	₱ ton	"
"A A" Mexican Guano	33	₱ ton	"
"A" do. do	30	₱ ton	
Moro Phillips' Super-Phosphate	56	₱ ton	
Berger & Burtz's S. Phos. of Lime	56	₱ ton	
Whann's Raw Bone Super Phos.	56	₱ ton	
Md. Fertilizing & Manufacturing Co's Ammoniated Super-Phosphate	55	₱ ton	
Fine Ground Bone Phosphates	30	₱ ton	
Plaster	$2.25	₱ bbl.	

Sulphuric acid, 3 cts. ₱ lb.—(Carboy $3.)

Nitrate of Soda (refined Saltpetre) 6¼ cts. per lb in kegs of 100 lbs.

GRAIN.—*Wheat*—Pennsylvania fair red $1.55; Maryland do. low grade $1.27@1.30; good to prime do. $1 55@1.65; choice do. $1.90; prime white $1.65@1.75 *Corn*—Prime new white 103@106 cts; damp 00@00 cts.; old white 00, yellow 88 @90. *Oats*—60@64 cts. weight. *Rye*—$1.00@1.20.

HAY AND STRAW.—Penna. Timothy, baled, $20@22; Rye Straw $20@22 per ton.

MILL FEED.—Brown Stuff 16@17 cts; Middlings 27@35 cts., per bushel.

MOLASSES—Porto Rico, 55@65 cts; Cuba clayed 47@50 cts; E. Island 45@65 cts. New Orleans 00@00; Muscovado 50@56 cts.

POTATOES.—Market depressed—prices low.

PROVISIONS.—Shoulders 19 cts.; sides 19@19¼ cts.; clear rib 19¼ cts.

SALT.—Fine $2.70@3.00, per sack; ground alum $1.85@ 2.00; Turks Island 50@55 cts., per bushel.

SEED.—Clover $0.00 Timothy $0 00.

SUGAR.—Cuba 11½@11¾; Porto Rico 11½@11¾; Demarara 13½@15 cts.

TOBACCO—

Maryland—frosted to common	$ 4.00	@	$ 5 00
" sound common	5.00	@	6.00
" good do	6.00	@	7.00
" middling	7.50	@	10.00
" good to fine brown	11.00	@	15.00
" fancy	17.00	@	30.00
" upper country	7.00	@	35.00
" ground leaves, new	3.00	@	12 00
Ohio—Inferior to good common	4 00	@	6 00
" brown and greenish	7.00	@	8 00
" good and fine red and spangled	00.00	@	00.00
" medium and fine red	9.00	@	13.00
" common to medium spangled	7.00	@	10.00
" fine spangled	12.00	@	25.00
" fine yellow and fancy	00.00	@	00.00
Kentucky—common to good lugs	8.00	@	10.00
" common to medium leaf	11.00	@	14.00
" good to fine	15.00	@	18.00
" select leaf	20.00	@	25.00

WOOL.—Unwashed, 32@33 cts.; burry 25@27 cts.; tub washed 48@50 cts; pulled 33@38 cts.

WHISKEY.—116@118 cts.

Catalogue—From Kemp & Kerr, we have received their List of Fruit, Shade and Ornamental Trees, Vines, Plants, Shrubbery, &c., which are cultivated and sold wholesale and retail at Choptank Nurseries, Denton, Carolina Co., Md Send for Catalogue.

Whitlock Exposition Recorder.—A compendium of practical information in the arts, mechanics, manufactures, agriculture, horticulture, &c. New series—enlarged—monthly at $1 per annum—New York.

The Musical Independent.—This musical monthly comprises thirty-two pages of really entertaining and useful matter to every lover of music and its progress. Each number has five and six pieces of choice music adapted to the novice and expert. It is published at Chicago, by Lyon & Healy, at $2 a year. The music of each number is worth more than the *year's* subscription.

The Engineering and Mining Journal.—An illustrated weekly periodical, intended to advance the interests of those engaged in engineering and mining, which it is well calculated to do, as it is conducted with great ability. Western & Co., publishers, 37 Park Row, New York—price $5 per annum.

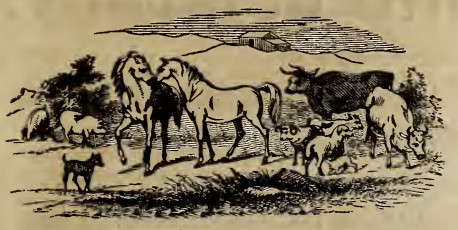
Meditations According to the Method of St. Ignatius, on the Suffering, Life and Death of our Lord Jesus Christ, translated from the French by a Sister of Mercy. We have received Part I of these "Meditations," which are approved by the Archbishop of Cincinnati, I. B. Purcell, and to the devout must be most acceptable. Address "Sisters of Mercy," W. Fourth street, Cincinnati, Ohio.

"*Alabama*—A few remarks upon her resources, and the advantages she possesses as inducements to immigration" To those seeking information as to the resources, &c., of Alabama, this pamphlet will prove of interest John C. Ketfer, Esq, is head of the Bureau of Industrial Resources, who can be addressed at Montgomery, Alabama, for a copy of the above or for further information.

The New Electic Magazine.—The August number received, maintaining its high standard of excellence. Recently united with "The Land We Love," Baltimore, Turnbull & Murdock, editors—$4 per annum.

Blackwood's Edinburg Magazine.—The July number of this sterling old favorite is received. New York—The Leonard Scott Publishing Co., 140 Fulton—terms $4 a year—"Blackwood" and the four Reviews, $15.

Live Stock Register.



BLIND STAGGERS.

A correspondent at Winston County, Miss., in the monthly report of the Agricultural Department for May and June writes: "I see from you monthly report for March and April that many horses have died of blind staggers. I have, during my life, lost several horses from the same disease, and I am fully satisfied it was by my own fault. When I first moved to this county, in 1836 or 1837, I purchased a lot of corn raised on newly-cleared land; it was late planted, small ears, very light corn, worth but little, and badly worm-eaten, with much worm-dust in it. I fed it to my horses, and in a short time one or two were taken with the staggers. I then had a trusty old negro man to shuck the corn, and free it from all worm-dust by breaking off some of the small end and scraping out all the dust in the rows with a knife. I then continued to feed with the corn, and gave my horses nearly twice the quantity in bulk that I usually gave of good corn, and my horses did well, having no more staggers. I have several times neglected to see to this, and my horses were affected with staggers, but I have never had a horse affected with staggers except when he had eaten corn with worm-dust in it. I have never fed with corn having much worm-dust in it without my horses having staggers. New ground corn is said to give horses blind staggers. New ground corn in all newly settled countries is generally planted late, and all late-planted corn is more liable to have worm-dust in it. I have observed that my horses always do well on new ground corn if freed from worm-dust and enough is given them, and I have no fears of the staggers if my corn is freed from worm-dust; but I believe a horse will be almost sure to have staggers if fed on worm-eaten corn with the dust in it. I have heard of horses having staggers from grazing on grass where the army-worm had been, and have been told that the dust, wet with saliva and bound to the skin, will produce a blister. I do not know that this is true, but believe that nearly all cases of blind staggers are produced by the worm-dust in corn, and that it would be scarce if horses were never fed with it. The corn should always be freed of the worm-dust before taken to the stables, and none suffered to fall in the trough in which the horse is fed, and the cobs should be thrown away and the trough kept clean of all dust. I think blind staggers and sleepy staggers are produced by the same cause."

The Curry-Comb, Card, and Scrubbing-Brush.

These stable instruments are not used as often and regularly as they should be used by the generality of farmers. A good dressing down of the horse each morning with the curry-comb and brush is fully equal in health-giving power and elasticity of movement to two quarts of oats. It is a grateful attention, repaid many fold by the animal which is the stated recipient of it.

But, while bestowing this care upon the horse as most persons do, knowing its beneficial effects, they very generally seem to forget that oxen and cows are equally benefited by a daily application of the card. There is no room for doubt on this subject with those who have been accustomed to bestow this attention on their dairy and working stock. A free use of the card gives repose to the animals, enables them to enjoy and digest their food in quiet instead of raking their bodies against posts, trees and fences as opportunity offers for allaying the irritation produced by an accumulation of dust, hayseed, and other irritants common to the stable and barn yard. Even young colts, calves, and yearlings are greatly benefited by the use of the card, while its daily use is a step in the breaking or training process by which the services of the animals are made more readily available when properly matured for labor.

It may seem absurd to wash and scrub a fattening porker, but those who have practiced it concur in its utility. One reason why hogs are fond of immersing themselves in pools of stagnant and filthy water is found in the fact that their bodies get encrusted with dirt, causing an itching which the pool they seek allays. This irritation renders them restless and retards the fattening process very materially. This can be prevented by an application of soap suds aided by a splint broom commonly used for cleaning stables and cross-walks. A liberal application of suds and a good scrubbing daily will allay irritation, and give that repose to the animals which is essential to a steady and rapid accumulation of flesh and fatty matter. The labor of preparing and applying the wash, at least once a day during the milder portions of the season, will be amply remunerated in the increased weight of the animals when the slaughtering season arrives.—*Mass. Farmer.*

PATAPSCO GUANO COMPANY.

:o:

Incorporated by an Act of the Legislature of Maryland, August, 1868.

:o:

The sole management of its manufacture so favorably known as the

PATAPSCO AMMONIATED SOLUBLE PHOSPHATE

Is confided to Dr. G. A. LIEBIG,

So well known to the agricultural community as one of our most experienced and reliable agricultural chemists, giving a guaranty that the product of this Company is a combination of such ingredients as are suited to produce a first-class fertilizer, and that nothing of an inferior or adulterated nature will under any circumstances be used.

At the date of its organization in August last (1868,) the Managers of the Company decided to elevate the standard of their brand and give the consumer an article equal, if not superior, to any fertilizer heretofore used.—This has been done at a much increased cost to the Company, but without increasing the price to the farmer.

How far we have been successful in accomplishing so desirable a result is now well known and appreciated in the many localities where it has been used during the past ten months.

The Managers of the Company may be permitted, without incurring the charge of egotism, to refer with pride and satisfaction to the record made. All our correspondents, extending through the Middle and Southern States, without exception, testify that the "PATAPSCO" is giving entire satisfaction and showing fine results. Those who have had it since 1865 and 1866 say "it is doing better than ever before—surpassing all others."

This has been so gratifying, that notwithstanding the increased cost, as before stated, has been heavy, we shall aim in the future to place the standard still higher, and give the consumers an article combining all the principles necessary for any crop or soil, and at same time act as a *permanent improver*.

In the present issue of the *Maryland Farmer* we publish the opinion of a few good farmers who have used the "PATAPSCO," all of whom are gentlemen of veracity and can be relied upon. We could present hundreds of others.

To those who have not used it we recommend a trial—it will demonstrate its value, especially as *a renovator of exhausted lands*.

We have, since last season, procured at large cost a machine for pulverizing more finely our fertilizer for drilling purposes.

Farmers and others visiting our city are invited to call at the office of the Company, No. 65 South Street, corner of Pratt, and examine specimens, which for its mechanical condition and adaptation for drilling has no equal.

In future, as in the past, this Company will maintain such a high standard for its manufacture as to render its brands a sufficient guaranty to those who use it that no better fertilizer than the "PATAPSCO" can be procured at any price.

All communications should be addressed to the

Patapsco Guano Company,

NO. 65 SOUTH STREET, BALTIMORE, MD.

☞ PRICE $60 PER TON. Discount to dealers.

GEO. W. GRAFFLIN, Treas. BENJ. G. HARRIS, Pres't.

G. A. LIEBIG, Chemist. H. E. BERRY, Secretary.

WORKS, PATTERSON'S WHARF, (PHILPOT STREET.)

PATAPSCO CERTIFICATES.

:o:

KENNEDYSVILLE, July, 1869.

Dear Sir:—I purchased and applied to my wheat crop last fall, twenty-six tons Patapsco Ammoniated Soluble Phosphate. Upon fallow land used one hundred pounds per acre, and on corn ground two hundred pounds per acre; the results justify me in recommending it as a first class fertilizer. My crop is heavy and stood well. Not having threshed cannot give the actual results, but have no hesitation in saying it is a *good crop.* Wherever the Patapsco has been used in my vicinity, the results are good and warrant me in saying it is a leading article and will be freely used this fall. After threshing I will give you the particulars as to weight and yield.

Truly yours,
WILLIAM WELCH.
State Senator, Kent County.

LOCUST GROVE, KENT CO., July, 1869.

Dear Sir:—I beg to add my testimony to the beneficial effects of your fertilizer. I used last fall one hundred and seventy pounds per acre upon my wheat, and I do not hesitate saying it is the best manure I ever used, not excepting No. 1 Peruvian Guano. In fact, both my wheat and clover are better than where I used the Peruvian, although I made equal applications of each. The Peruvian cost one-third more than yours. I shall use the Patapsco this coming fall.

Respectfully yours,
SAM'L R. JEWELL.

KENNEDYSVILLE, July, 1869.

Dear Sir:—I made use of four tons Patapsco last fall on wheat. One hundred and sixty-seven pounds, or one bag to the acre on corn land planted same year. It gives me pleasure to state I am well pleased with the result and believe it to be a first rate fertilizer. Shall use it again.

Yours truly, PHILIP F. RASIN.

GALENA, KENT CO., July, 1869.

Dear Sir:—I was induced to use one ton and a half Patapsco last fall upon my wheat crop. I have the best yield I ever made during the twenty-six years that I have been farming. I used other fertilizers at same time, but the Patapsco is greatly superior to any of them, therefore I shall, in future, use nothing else. On fallow land I got twenty-five and a half bushels, and on corn land twenty bushels per acre. I applied some on corn this spring with astonishing results. I believe it the best fertilizer in use, and therefore recommend it to all farmers.

Respectfully yours, &c., E. CROUCH,
Register of Wills for Kent County.

BUCKEYESTOWN, FREDERICK CO., June 24, '69.

Gentlemen:—I have used the Patapsco Ammoniated Soluble Guano upon wheat and am much pleased. It is equal to anything I have tried, even at much higher cost, and therefore recommend its use to others; shall use it again this fall. Yours truly,

ADAM SCHAEFFER.
FREDERICK CO., June, 1869.

Gentlemen:—I purchased your Patapsco Guano last fall of Mr. W. R. Boyd, and applied it upon my wheat crop. I can say that the crop looks better than any I have seen in the neighborhood. Believing it to be very superior, I shall continue to use it upon my crops. Yours, &c., D. T. JONES.

LOCUST GROVE, July 12, 1869.

Dear Sir:—I am one of many of my neighbors who used last fall, upon wheat, the Patapsco Guano. I used four tons at the rate of two hundred pounds per acre. I also used four tons of another standard fertilizer but in larger quantity per acre; the difference in favor of Patapsco is very marked; the crop grew off finely; the straw firm and stood well; the heads long, full and heavy. The Patapsco seems to impart a stiffness to the straw not usual in the most of fertilizers I have used. I have no hesitation in saying it is the best article I have seen. I applied this spring upon my corn one hundred pounds per acre—one handful to five hills—although much less than you recommended—it has acted like a charm—my corn is twice as promising upon which it was applied. I also used it upon potatoes, which look very fine. I shall use it this fall. With best wishes for your success, I am yours, &c.,

W. O. SHALLCROSS.

Patapsco Certificates---Continued.

—:o:—

CHESTERVILLE, KENT Co., July 12, 1869.

Dear Sir:—I used 4 tons "Patapsco" on my wheat crop last fall—180 lbs. per acre on stubble land—and I have as fine a crop as there is in this county. I tested it alongside of an article that cost $70, and now give the "Patapsco" the preference over all I have ever used. I will want at least ten tons this fall. JOHN F. NEWNAN.

KENNEDYSAILLE, KENT Co., July 12, 1869.

Sir:—I will give you my experience with the "Patapsco Ammoniated Soluble Phosphate." I used last year 3½ tons—applied 200 lbs. per acre on corn land, and have as fine a crop as any one could desire.

I tried some alongside of an article made in Philadelphia, costing same money, on same land, and equal quantity. There is no comparison in the results, the Patapsco being far the best.

I have seen the effect upon my neighbors corn crop, and much regret not using it on mine. I shall want several tons this fall.

Yours, truly, S. A. MERRITT.

BUCKEYSTOWN, FRED'K Co., July 24, 1869.

Gentlemen:—I applied the Patapsco Ammoniated Soluble Phosphate upon part of my wheat crop last fall, and consider it equal to anything I have ever used, and much cheaper. Respectfully, DAVID THOMAS.

FREDERICK Co., MD., July, 1869.

Dear Sir:—Having used the Patapsco Guano last fall on wheat, and this spring on my corn, I take pleasure in saying it is the best Fertilizer in use for either of those crops, not excepting those manures which cost more, and I take pleasure in recommending it to those farmers who want a good article.

Yours, truly, JOHN W. UNGLESBEE.

LOCUST GROVE, KENT Co., July 10, 1869.

Dear Sir:—I was induced to use one ton and a half of your guano upon my last wheat crop. Applied two hundred pounds per acre. It gives me pleasure to testify to the excellent results. The wheat grew off splendidly—matured early, is well filled and heavy—altogether it is a very fine crop. I tried half a ton on my corn with another article which was highly recommended by those who had used it, but so far your's is far ahead. I believe the Patapsco to be the best article in use. I only applied one hundred pounds per acre. Shall use it again this fall.

Most truly yours, JAMES WILLIS.

LOCUST GROVE, KENT Co., July, 1869.

Dear Sir:—I used only one ton of your Patapsco last fall on my wheat crop side by side, pound for pound with another good fertilizer costing seventy dollars per ton; there is no difference; my wheat is remarkably good. I regard yours as a first class fertilizer and will use it this fall. Yours truly,

JERVIS SPENCER.

CHESTERVILLE, KENT Co., July, 1869.

Dear Sir:—I used upon part of my wheat crop last fall, very late in the season, one hundred and fifty pounds Patapsco per acre, *broadcast*. I do not consider it had a fair chance; nothwithstanding, its action justifies me in saying it is a *good* article and I will use it altogether the coming fall. Yours, respectfully, DEWITT C. SPEAR.

LOCUST GROVE, KENT Co., July, 1869.

Gentlemen:—I bought last fall two tons of your "Patapsco" and applied two hundred pounds per acre in the drill on my wheat crop and corn land. I don't see how I could have gotten a larger or better yield. It grew off well, ripened early and while there was a full yield of straw, which stood well, the grain is full and heavy, proving conclusively the fertilizer used is a very superior article. I want nothing better and shall use it this fall.

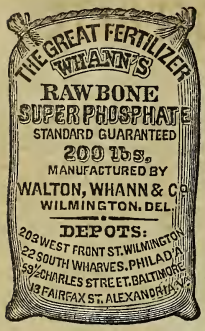
Yours truly, ROBERT COMLY.

GALENA, KENT Co., July, 1869.

Dear Sir:—I applied *two* tons last fall to my wheat crop—two hundred pounds per acre broadcast—and am well satisfied with the result. I consider it the best fertilizer made, and would therefore rather use it than any other I have seen. I have seen it tested in equal quantities with a more costly article and produced an equal crop. Yours truly,

JAMES S. WILSON.

For further information, &c., see general advertisement.



FALL SEASON 1869!

WHANN'S

Raw Bone Super-Phosphate.

The Great Crop Producer

And complete Renovator of Worn-out Soils

A UNIFORM STANDARD OF QUALITY ALWAYS GUARANTEED.

A list of farmers who have used this Super-Phosphate:

B. Maitland.. .....Anne Arundel county, Md.
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E. K. Arnold..... " "
J. W. Selby..... " "
Horace Walker..... " "
Walter Smith..... " "
Charles Pulley..... " "
Samuel Cottingham..... " "
Thomas J. Hall..... " "
Dr. Henkle..... " "
J. Dougherty..... " "
Orson Adams..... " "
R. M. Pindle..... " "
Dr. Richard Weems..... " "
P. L. Smith..... " "
P. Lenfield Perkins..... " "
Dennis Hebbon.....Annapolis, Md.
C. Rochlitz..... "
Ezra Sheckle..... "
E. H. Fendall.....Baltimore county, Md.
Andrew Banks..... "
D. Hoffman..... "
Robert Oliver..... "
Hon. John M. Frazier..... "
Levi Hoffman..... "
Peter Baer... ..... "
F. C. Slingluff..... "
William Schaefler..... "
James Gebhart..... "
P. H. Muller..... "
S. M. Rankin..... "
Samuel J. Buckman. ..... "
Robert W. Gibson..... "
K. B. Wells..... "
S. F. Erdman..... "
James Galloway..... "
George Gegner..... "
Wm. Price .... "
Mrs. Mary Edwards..... "
L. P. Slingluff .....Carroll county, Md.
Jacob Koons..... "
Henry S. Fitch..... "
B. W. Mister.....Dorchester county, Md.
Samuel Brawhawn..... "
Daniel M. Henry..... "
W. T. Vickers..... "
James M. Thompson..... "
James Wright..... "
William Holland..... ..... "
E. C. Johnson..... ..... "
Calvert Orem..... "
William Creighton..... "
John B. Nabb..... "
William H. Travers..... "
R. H. Payne.....Heathville, Va.
Benjamin Cole..... .....Harford county, Md.
A. F. Brown..... " "
Maynadier & Tydings..... " "
George Stockham..... " "
J. M. Maynadier..... " "
Samuel Sutton..... " "
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R. B. McCoy..... " "
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T. K. Nailer..... " "
L. P. Cage..... " "
Jas. H. Rawlings..... " "
Dr. M. R. Latimer... ..... " "
J. N. W. Wilson..... " "
James Treakle.....Howard county, Md.
Union Manufacturing Co..... " "
R. S. S. Harrison..... " "
Dr. Henry... ..... " "
Henry Cragg..... " "
E. Carrington..... " "
Dr. C. C. Richardson.....Montgomery county, Md.
Henry W. Richardson..... " "
B. R. Edwards.....Alleghany county, Md.
Judge Jno. M. Buchanon..... "
Jno. Humbird..... ..... "
Joseph Dilley..... "
Adam Sawer..... "
J. P. Boggs, Accomac county, Va.
W. I. Griffith.....Kent county, Md.
R. A. Frazier..... "
Thomas S. Dent.....Charles county, Md.
P. A. Sasscer..... " "
Dr. John H. Turner. .....St. Mary's county, Md.
Dr. Wm. S. Keech..... " "
Joseph H. Jones..... " "
Hugh Steel.....Cecil county, Md.
Thomas H. Kemp..... .....Caroline county, Md.
T. F. Johnson..... " "
William Caulk.....Talbot county, Md.
Edward Ringgold.....Queen Anne's county, Md.
Hon. J. W. Crisfield.....Princess Ann, Md.
Dr. L. P. Mitchell.....Somerset county, Md.
Mrs. Dr. Mitchell..... " "
John Turner.....Wicomico county, Md.
William F. Whitbeck.....West Point, Va.
R. R. Howison.....Fredericksburg, Va.
Dr. Fred. Floyd.. .....Accomac county, Va.
Louis P. Rogers..... " "
George S. Rogers..... " "
Alfred Lofland..... " "
Henry P. Ayres.....Northampton county, Va.
R. T. Ames..... " "
W. B. Wilson..... " "
Joseph Jackson..... .....Kingwood, West Va.
William Rodeheaver..... " "
Levi Klauser..... " "
Gilkeson & Pattie.....Romney, West Va.
Dr. James T. Foulks.....Guilford county, N. C.
Simon Grisel.....Jerusalem, Ohio.
Morris & Greesly..... " "
John R. Beckett.....Calvert county, Md.
Richard Roberts, Jr..... "

☞ SEE NEXT PAGE. ☜

"Honor to whom Honor is Due."

TWO GOLD MEDALS AWARDED ONE MACHINE.

Harder's Premium Railway Horse Power and Combined Thresher and Cleaner, at the Great National Trial, at Auburn, July, 1866, for "*Slow and easy movement of horses, 15 rods less than 1½ miles per hour, Mechanical Construction of the very best kind, thorough and conscientious workmanship and material in every place, nothing slighted, excellent work, &c.*," as shown by official Report of Judges. Threshers, Separators, Fanning Mills Wood Saws, Seed Sowers and Planters, all of the best in Market. Circulars with price, full information, and Judges Report of Auburn Trial sent free. Address

R. & M. HARDER,
Cobleskill, Schoharie Co., N. Y.

jy-3t

Dan River Land Agency.

POWHATAN BOULDIN,

Agent for the Sale and Lease of

REAL ESTATE GENERALLY

DANVILLE, VA.

REFERS BY PERMISSION TO—W. T. Sutherlin, Pres't Va. State Agricultural Society; W. S. Patton, Banker, Danville, Va.; Hon. Thomas S. Flournoy, Pres't Norfolk and Great Western Railroad; John R. Edmunds, Esq., News Ferry, Halifax, Va.; Hon. John B. Baldwin, Staunton, Va. jy-4t

CHESTER WHITE & SUFFOLK PIGS.

POULTRY.

Imported and Premium Fowls for sale. Send stamp for beautifully illustrated circular.

THOMAS B. SMITH,
Stony Brook, Box 9,
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POULTRY.

Imported an premium Fowls Chester White and Suffolk Pigs for sale.—Send stamp for beautiful illustrated circulars.

THOS. B. SMITH,
jy-2t* Stony Brook, N. J.

KNEE SPRUNG HORSES

Permanently cured without cost or trouble. Address W. T. BAKER,

Sentinel Office,
jy-tf Waterford, N. Y.

Prindle's Agricultural Steamer,

FOR

Fruit Growers, Stock Feeders, Dairymen, &c.

This Steamer has now been in use a number of years, is perfectly safe and a most complete invention for cooking food for Stock, Scalding Hogs, and for general culinary purposes.

Mr. S. L. Hyatt of Huntingdon, Pa., writes, "I use my Steamer chiefly in canning of fruit, it answers the purpose to my fullest expectations, * * * and would not be without one at double its cost."

Messrs. Frank L. Morling and Chas. W. Beatty of this City, have each a Prindle Steamer in use "since last Fall," of which they speak in the highest terms as to their great value for Cooking, Steaming and Boiling purposes, and say they would not be without them.

The Steamer is for sale by

EDMUND WOLF, 31 Light Street,
je-4t Baltimore, Md.

BONE DUST.

The subscriber has just erected at his farm, near the city, the most improved machinery for making

BONE DUST,

And is now ready to fill orders for any quantity, which will be delivered at the shortest notice. The Bone Dust will be finer than any heretofore made by him, (no chemical process resorted to,) enabling the farmer or planter to sow it with the Drill.

Mr. SAMUEL SANDS,

Well known to the farmers and planters of the United States as the former editor of the *American Farmer* and *Rural Register*, will have charge of his office, No. 63 S. GAY STREET, near Pratt, and will be happy to receive the visits or orders of his old friends.

JOSHUA HORNER,

OFFICE, 63 SOUTH GAY STREET, near Pratt,
Or **Cor. Chew and Stirling Sts.**
aug-6t **BALTIMORE, MD.**

☞ Book and Job Printing of every description executed at this office.

IMPORTANT TO FARMERS!

—————:o:—————

SUPER PHOSPHATES.

THE MARYLAND FERTILIZING AND MANUFACTURING CO.

Incorporated January, 1867.

—————: o :—————

DIRECTORS.

WM. G. HARRISON,
LAWRENCE SANGSTON,
ROBERT TURNER,
CHARLES J. BAKER,
RICHARD J. BAKER,
WILLIAM TREGO.

WILLIAM TREGO,
Manufacturing Chemist.

LAWRENCE SANGSTON,
President.

—————:o:—————

The wheat crop of 1869 has fully demonstrated the superiority of the SUPER-PHOSPHATES prepared by this Company, in all cases they have proved equal to the most costly articles in the market, Peruvian guano included, and vastly superior to the mass of material palmed off on the agricultural community under the name of "fertilizers."

The Phosphatic base is derived entirely from the Fossil Bone Phosphates of South Carolina, assimilating to, but containing 10 per cent. more Bone phosphate of Lime than the best ground bones, and containing 50 per cent. more of *Soluble Phosphate* than any of the Phosphatic guanos of the West India Islands.

FINE GROUND BONE PHOSPHATES,

Price $30 Per Ton, in Bags.

Containing, by the average of the Analyses of Professors Piggott, Leibig and Popplein, 60.20 per cent. of Bone Phosphate of Lime.

The unusual per centage of *Soluble* Phosphate will make this form very desirable to Farmers who prefer to use it in its natural state, or to manipulate for themselves.

AMMONIATED SUPER PHOSPHATE,

PRICE $55 PER TON, IN BAGS.

Adapted to lands that require a full development of the crop, both Straw and Grain.

COTTON AND TOBACCO FOOD.

PRICE $60 PER TON IN BAGS.

Specialities for the Cotton and Tobacco Plants, rich in Ammonia, Potash and Nitrates, but adapted to all plants that require a prompt and vigorous growth.

Letters and certificates from large numbers of prominent Farmers and Planters can be examined at the office of the Company.

The various preparations of the Maryland Fertilizing and Manufacturing Company are made under the personal supervision of a Manufacturing Chemist of thirty years' experience, and are confidently recommended to the Agricultural community.

LAWRENCE SANGSTON, President,

aug-1y

Office, 58 Exchange Place, Baltimore, Md.

Important to Agriculturists.

WM. CRICHTON & SON'S

AMMONIATED SOLUBLE

SUPER-PHOSPHATE OF LIME.

—o—

Containing 50 PER CENT. of BONE PHOSPHATES—of which 14 per cent. is immediately SOLUBLE—3 per cent. of Ammonia, and 3 per cent. of Potash.

—o—

An extensive experience of 20 years as importers and dealers in Guano and fertilizers and a direct intercourse and correspondence with agriculturists, have enabled us to learn their experience and to form some practical knowledge of what is required in a manure adapted to the various soils and crops of the Southern States. Thoroughly combining the various CHEMICAL CONSTITUENTS necessary to build up the truly vegetable part of the plant, and restore to the soil the elements of direct PLANT FOOD, which previous crops may have drawn from it.

For this purpose we have established an extensive manufactory in this city, with the appliances of steam and all the most recent improvements in machinery for grinding, mixing and thoroughly combining the various elements, require in such a fertilizer as shall meet the wants of farmers, which they can RELY upon for uniformity, containing the valuable properties claimed for it, and at a LESS PRICE than any OTHER SIMILAR MANURE OFFERED IN THIS MARKET.

Put up in Strong Bags. Price $50 Per Ton.

☞ Send for Pamphlets, containing full directions and Certificates.

WM. CRICHTON & SONS,

Wood street, Bowly's Wharf, Baltimore.

ang-tf

INTERESTING TO LADIES.

The following extracts are from the testimony, taken under oath, in a recent case pending before the United States Patent Office, upon the actual merits of the

GROVER & BAKER SEWING MACHINE,

and its relative merits as compared with other machimes:

Mrs. Dr. McCready, says:

"I have used, for nine years, a GROVER & BAKER MACHINE, and upon it I have done all kinds of family sewing for the house, for my children and husband, besides a great deal of fancy work, as braiding, quilting, and embroidering. During all that time my machine has never needed repair, except when I had the tension altered, and it is as good now as it was the firstday I bought it."

* * * * * * *

"I am acquainted with the work of all the principal machines, including Wheeler & Wilson's, Finkle & Lyon's, Wilcox & Gibb's, Ladd & Webster's, the Florence machines, and Sloat's machines, besides a number of ten-dollar ones; and I prefer the Grover & Baker to them all, because I consider the stitch more elastic. I have work now in the house that was done nine years ago, which is still good; and I have never found any of my friends who have used the other machines able to say the same thing

Mrs. Dr. Whiting gives the following reasons for the superiority of the Grover & Baker machines over all others:

"The elasticity of the stitch, and ripping when it is required; and also the stitch fastening itself, as you leave off; and also, the machine may be used for embroidering purposes; and therein consists the superiority over other machines.

"The stitch will not break when stretched, as the others do, and neither does it draw the work.

"I find this stitch will wear as long as the garments do—outwear the garments, in fact.

"I can use it from the thickest woolen cloth to Nansook muslin."

Mrs. Alice B. Whipple, wife of Rev. Mr. Whipple, Secretary of the American Missionary Association, testifies:

Q. As the result of your observation and experience, what machine do you think best as a general family instrument?

A. The Grover & Baker, decidedly.

Q. State the reasons, such of them as occur to you, for this opinion.

A. I think the stitch is a stronger stitch than that of any other machine I have used, and it seems to me much more simple in its management than other machines; one great advantage is the ease with which the seam is ripped when necessary to do so; and I think that the work, by an experienced person, on a Grover & Baker machine, is better than the work by such person on any other machine; it requires more skill to work other machines than the Grover & Baker.

Mrs. General Buel says she prefers the Grover & Baker machine over all others.

"On account of its durability of work, elasticity of stitch and strength of stitch. It never rips.

"It is preferred over all others; it is very easy in its movements, and very easily adjusted, and very simple in its construction.

"We can accomplish more in one week, by this sewing machine, than we can in a month by hand-sewing."

Mrs. Dr. Watts, says:

"I have had several years' experience with a Grover & Baker machine, which has given me great satisfaction. Its chief merit is that it makes a strong elastic stitch; it is very easily kept in order, and worked without much fatigue, which I think is a very great recommendation. I am not very familiar with any other machine, except a Wheeler & Wilson, which I have had. I think the Grover and Baker machine is more easily managed, and less liable to get out of order. I prefer the Grover & Baker, decidedly."

Mrs. A. B. Spooner, says:

"I answer conscientiously, I believe it to be the best, all things considered, of any that I have known.

"In the first place, it is very simple and easily learned; the sewing from the ordinary spool is a great advantage; the stitch is entirely reliable. It does ordinary work beautifully, and the embroidery stitch. It is not liable to get out of order. It operates very easily. I suppose I can sum it all up by saying it is a perfect machine.

"I have had occasion to compare the work with that of other machines. The result was always favorable to the Grover & Baker machine."

Mrs. Dr. Andrews, testifies:

"I prefer it to all other machines I have known anything about, for the ease and simplicity with which it operates and is managed; for the perfect elasticity of the stitch; the ease with which the work can be ripped, if desired, and still retain its strength when the thread is cut, or accidentally broken; its adaptation to different kinds of work, from fine to coarse, without change of needle or tension."

Mrs. Maria J. Keane, of the house of Natalie, Tilman & Co., says:

"Our customers all prefer the Grover & Baker machine, for durability and beauty of stitch."

Mrs. Jennie C. Croly, ("Jenny June,") says:

"I prefer it to any machine. I like the Grover & Baker machine in the first place, because if I had any other I should still want a Grover & Baker; and, having a Grover & Baker, it answers the purpose of all the rest. It does a greater variety of work, and it is easier to learn than any other. I like the stitch because of its beauty and strength and because, although it can be taken out, it don't rip, not, even by cutting every other stitch."

The foregoing testimony establishes beyond question:

1. The great simplicity and ease of management of the Grover & Baker machines.
2. That they are not liable to get out of repair.
3. That a greater variety of work can be done with them than with other machines.
4. That the elasticity of the stitch causes the work to last longer, look neater, and wear better, than work done on other machines.
5. That the facility with which any part of the seam can be removed when desired is a great advantage.
6. That the seam will retain its strength even when cut or broken at intervals.
7. That, besides doing all varieties of work done by other sewing machines, these machines execute beautiful embroidery.

Over one hundred other witnesses in the case above referred to testified to the superiority of the Grover & Baker machines in the points named in substantially the same language, and thousands of letters have been received from parts of the world, stating all the same facts.

☞ Send for a Circular.

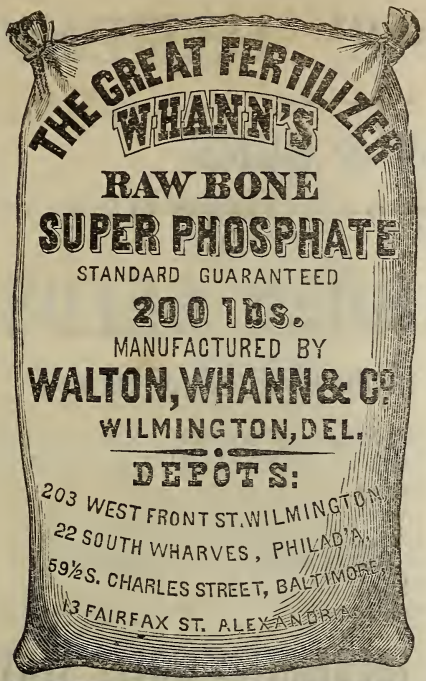
OFFICE AND SALES ROOMS,

jan-ly

181 Baltimore Street,

4

BALTIMORE.



Price in Baltimore of Whann's Raw Bone Super-Phosphate $56 per ton.

E. G. EDWARDS, Agent,

ap-6t 57 S. Calvert St., near Pratt, Baltimore, Md.

FOUTZ'S

CELEBRATED

Horse and Cattle Powders.

This preparation, long and favorably known, will thoroughly re-invigorate broken down and low-spirited horses, by strengthening and cleansing the stomach and intestines.

It is a sure preventive of all diseases incident to this animal, such as LUNG FEVER, GLANDERS, YELLOW WATER, HEAVES, COUGHS, DISTEMPER, FEVERS, FOUNDER, LOSS OF APPETITE AND VITAL ENERGY, &c. Its use improves the wind, increases the appetite—gives a smooth and glossy skin—and transforms the miserable skeleton into a fine-looking and spirited horse.

To keepers of Cows this preparation is invaluable. It is a sure preventive against Rinderpest, Hollow Horn, etc. It has been proven by actual experiment to increase the quantity of milk and cream twenty per cent. and make the butter firm and sweet. In fattening cattle, it gives them an appetite, loosens their hide, and makes them thrive much faster.

In all diseases of Swine, such as Coughs, Ulcers in the Lungs, Liver, &c., this article acts as a specific. By putting from one-half a paper to a paper in a barrel of swill the above diseases will be eradicated or entirely prevented. If given in time, a certain preventive and cure for the Hog Cholera.

DAVID E. FOUTZ, Proprietor,

BALTIMORE, Md.

For sale by Druggists and Storekeepers throughout the United States, Canadas and South America.

FOUTZ'S MIXTURE,

The Great External Remedy,

For Man and Beast.

IT WILL CURE RHEUMATISM

The reputation of this preparation is so well established, that little need be said in this connection

On MAN it has never failed to cure PAINFUL NERVOUS AFFECTIONS, CONTRACTING MUSCLES, STIFFNESS AND PAINS IN THE JOINTS, STITCHES in the SIDE or Back, SPRAINS, BRUISES, BURNS, SWELLINGS, CORNS and FROSTED FEET. Person affected with Rheumatism can be effectually and permanently cured by using this wonderful preparation; it penetrates to the nerve and bone immediately on being applied.

On HORSES it will cure SCRATCHES, SWEENEY POLL-EVIL, FISTULA, OLD RUNNING SORES, SADDLE or COLLAR GALLS, SPRAINED JOINTS, STIFFNESS OF THE STIFLES, &c. It will prevent HOLLOW-HORN and WEAK BACK IN MILCH COWS.

I have met with great success in bringing my Mixture within the reach of the Public. I am daily in receipt of letters from Physicians, Druggists, Merchants and Farmers, testifying to its curative powers.

DAVID E. FOUTZ, *Sole Proprietor*,

BALTIMORE, Md.

feb-1y

NAVASSA GUANO,

The only reliable source of Rich Bone Phosphate of Lime.

The attention of manufacturers of Artificial Manures and agriculturists is called to the following analysis of Navassa Guano. The fact alone of a good and increasing market having been found in Europe for this guano, whilst none of the many Phosphates for sale in this country can there find a purchaser, speaks as favorably for the richness and reliability of our guano as it is possible, and the further fact that it is the base of nearly all the well known Artificial Manures now manufactured, and the recommendation of it by such men as Prof. Voelcker, Sibson and Liebig, is sufficient guarantee to the user that by its selection he has obtained the richest Phosphatic Material extant. We guarantee the guano to contain a given amount of Bone Phosphate of Lime, to be anlyzed upon arrival by any competent chemist the purchaser may select. Supplying the trade with this Guano in fine powder, packed in strong bags, containing twenty per cent. more Phosphate than any article now offered, at $30 per ton, or crude, direct from Navassa Island, at proportionally low rates.

LABORATORY, 11 SALISBURY SQUARE, FLEET STREET.

Analysis of six samples, representing that number of cargoes, lately brought to England.

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Moisture	13.61	2.73	5.51	7.70	8.77	13 07
Water in combination and Organic Matter	6.72	7.39	6.50	7.04	6.67	....
*Phosphoric Acid	30.88	32.48	31.85	31.98	31.23	31.64
Lime	32.56	34.06	37.73	35.10	37.22	37.08
Oxides of Iron, Alumina, Carbonic Acid, &c	13.88	20.16	16.09	15.60	13.80	16.01
Insoluble Silicious Matter	2.35	3.18	2.32	2.58	2.31	2.22
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime (bone earth)	67.41	70.90	69.50	69.81	68.18	69.07

The commercial value of Navassa Guano, it is scarcely necessary for me to say, is mainly regulated by the amount of Phosphoric Acid which it contains. In the foregoing analysis the percentage of Phosphoric Acid was accurately determined.

AUGUSTUS VOELCKER,
Prof. of Chemistry to the Royal Agricultural Society of England.

Remarks and Analysis by Dr. Sibson, of London. 11 *Eaton Terrace, St. John's Wood, Dec.*, 1867

Amongst the natural deposits of phosphates now at command for furnishing the constituents of our super-phosphates and other prepared manures at present so extensively consumed in our fields, that of the Island of Navassa, lately brought to notice, appears to be one of the most important. In the search for Natural Phosphates, now pretty actively prosecuted, materials of this description are sometimes found, which may possess a certain amount of scientific interest, but are of no practical importance, solely on account of their insignificant quantity. Again, a phosphate possessing almost every desirable quality, may be excluded from the market by the unfortunate fact of its percentage of Phosphate of Lime being too low. Neither of these drawbacks, however, attach to the Navassa Guano.

As I find from analyses of several cargoes lately brought to this country, that the Navassa Guano possesses a high value, I consider that it merits more than ordinary attention.

	No. 1.	No. 2.	No 3.	No 4.	No. 5.	No. 6.
Moisture and Water of Combination	10.24	9 25	5.73	12.90	11.15	6.53
*Phosphoric Acid	32.94	32.57	33.43	32.21	31.27	33.03
Lime	37.91	37.34	40.15	36.13	34.90	37.20
Carbonic Acid	1.30	1.20	(not determined.)		1.68	1.02
Equal to Carbonate of Lime	2.95	2.72	"	"	3.75	232
Oxide of Iron, &c	15.36	17.18	17.85	16.63	15 83	18.24
Insoluble Matter	2.25	2.46	2 84	2.13	5.17	3.98
	100	100	100	100	100	100
*Equal to Tribasic Phosphate of Lime	71.36	70.57	72.43	69.80	67.76	71.58

The average percentage of Phosphate of Lime, in most samples, I find to be over 70 per cent., which as an average, is higher than most Phosphatic materials now on the market.

ALFRED SIBSON, F. C. S., &c. *Royal Agricultural College, Cirencester, England.*

Analysis by Dr. Liebig, Baltimore, of cargoes lately imported.

Bark Savannah...June 8, 1868, containing, crude, 69.94—when dried, 76.61 per cent of Bone Phosphate of Lime.
Brig Cyrus Fassett, " 27, 1868, " " 68.89 " " 75.16 " " "
Brig Fidelia..... " 10, 1868, " " 68.87 " " 75.44 " " "
Brig M. E. Banks..May 8, 1868, " " 66.03 " " 73.59 " " "
Brig Romance....June 16, 1868, " " 69.11 " " 76.61 " " "
Brig E. H. Rich..Sept. 21, 1868, " " 68.57 " " 74.56 " " "
Brig Diego.....Aug. 12, 1868, " " 67.00 " " 75.16 " " "

For Sale by Navassa Phosphate Co.

R. W. L. RASIN, General Agent,

dec-tf 32 SOUTH STREET, BALTIMORE.

THE FARMRES' FAVORITE!

:o:

GREATLY IMPROVED.

:o:

BICKFORD & HUFFMAN'S

WORLD RENOWNED PREMIUM

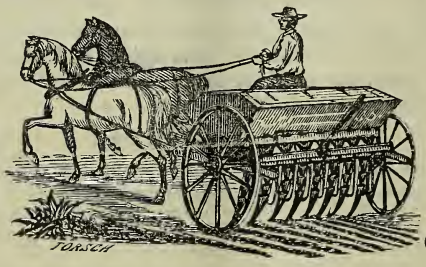
GRAIN DRILL,

WITH THE IMPROVED GUANO ATTACHMENT & GRASS SEED SOWER.

Patented April 22, 1856.

Re-Issued May 18, 1858.

Patented Aug. 18, 1858.



New Pat. Mar. 19, 1867

OF THE

CONTINUOUS

Grain Distributor.

The Desideratum of Seeders!

Perfect in Mechanical Construction!

Perfect in its Performance of Work!

Sowing all grains, from the coarsest Marrowfat Peas to the finest kerneled, *with accuracy*. Thistle balls and dirt do not clog it. Seeding an even continuous stream through each tube; performing equally well up hill or down, side hill or level.

No Bunching of Grain!

No Liability to Get Out of Order or Broken!

Built as a plain Grain Drill or with Compost or Seed Attachment.

For one of these incomparable Machines, address

W. L. BUCKINGHAM, General Agent,

591/2 SOUTH CHARLES STREET, BALTIMORE, MD.

PRICES---Delivered on Boat or Cars at Baltimore.

8 Tube Grain Drill, - - -	$ 85 00	9 Tube Grain Drill, with Guano or Plaster Attachment, - - -	$130 00
9 " " - - -	90 00		
8 " " with Guano or Plaster Attachment, - - -	125 00	Grass Seed Attachment to either of the above, - - - -	10 00

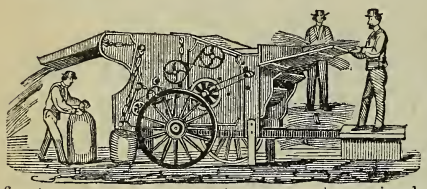
TERMS CASH—or endorsed Notes, due in four months, with interest.

☞ The purchaser pays the Freight in all cases.

GEISER'S PATENT

SELF-REGULATING

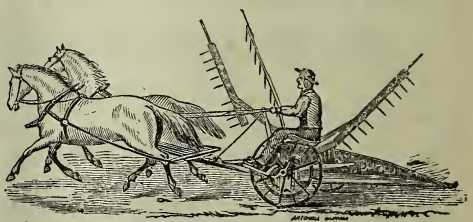
Grain Separator, Cleaner & Bagger.



The capacity of this machine is from 200 to 300 bushels of wheat per day, and double that amount of oats, with 5 or 6 hands and as many horses. The capacity of No. 1 large machine, 500 or 600 bushels of wheat per day, and double that amount of oats. There is also a great saving of grain, in straw and chaff, over the common way of threshing and cleaning, and also over other Separators and Cleaners. The machine is conveniently arranged for hauling and threshing, being permanently fixed on two wheels—and prepares the grain clean for market at one operation. This machine can be run with either lever or railway power.

JOHNSTON SELF-RAKING REAPER,

For the past four years shows a merit that has no parallel in the history of Harvesters in this or any other Country.



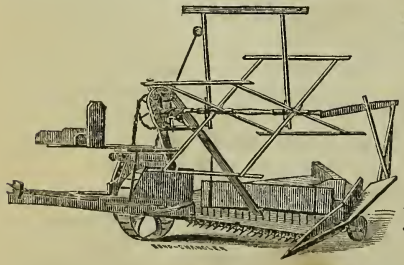
The inventing of this Reaper just at the time when mechanics and farmers were settling down in the belief that they had already discovered the right and only practical method for securing grain, is one of those phenomena, or strides made in the inventive art that now and then occurs within a lifetime. Former efforts have been numerous and their results complicated, while in this we have the most simple structure imaginable, and which thus far proves susceptible of improvement only in form and strength; the universal acknowledgement has been, *"The Principle is Perfect."* ☞ The Johnston Self-Raking Reaper has an Adjustable Cut—i. e., if you are reaping standing grain, and all at once come to a lodged spot—by moving a lever at your side the cutters are lowered to gather it up; and this is raised and lowered in a moment, while the Machine is working.

THE HUBBARD LIGHT MOWER.

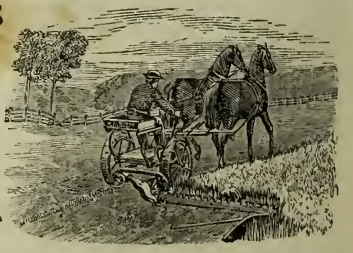
In presenting the Hubbard Light Mower to the Farmer for 1869, we do not propose to discuss at length its merits. It is so well and favorably known, that it needs no argument to convince any unprejudiced man, that it is the best Mower now before the public.

Years of labor have been bestowed upon the Hubbard Machine to make it as perfect as possible, and each year's improvements have added to its merits, until now it stands unrivalled as the best and the most perfect Mower in the world. We make this assertion without fear of successful contradiction, and can verify the statement by thousands of references.

LINTON & LAMOTT, Baltimore, Md.



M'CORMICK'S REAPER AND MOWER.



THE RELIABLE—By which we designate the well known Self-Raking Reaper, (as represented above,) which has won for itself a world-wide notoriety as the machine which abolished the old style of raking by hand. It is a one-wheeled machine, with serrated sickle, and while built mainly with a view to reaping (in which it has no competitor for amount or quality of work it can accomplish per day,) it can also be very successfully used as a Mower. It is an indispensable machine for those who have more than about sixty acres of grain to harvest.

THE McCORMICK PRIZE MOWER—A two-wheeled, four foot cut Mower, with double-jointed Cutter-Bar, lifting and tilting levers, &c.; a superb Mower in all varieties and conditions of grass and ground.

☞ For further information, pamphlets, &c., address

may-4t **LINTON & LAMOTT, 151 N. High St., Baltimore.**